

Magazine

# RETS

International Network of Health Technicians Education

Edición bilingüe  
español inglés

## INTERVIEW

The importance  
of the 3<sup>rd</sup> HRH  
Global Forum

## URUGUAY

The technical  
careers in the  
health sciences



**Course content: a matter  
that requires afterthoughts**

# SUMMARY

2

## INTERVIEW

Roberto Esteves who supports the organization of the 3<sup>rd</sup> Global Forum on Human Resources for Health talks about the arrangements

5

## NETWORK NEWS

6

## COVER

Health technician education: special attention to course content (part 1)

10

## HEALTH INFORMATION

Medical Records and Health Information Technician: education must be in compliance with the importance of the function

14

## HEALTH TECHNICIANS WORLDWIDE

Uruguay (Part 2)

2<sup>a</sup>  
Meeting of  
RETS-Unasul

2<sup>a</sup>  
Meeting of  
RETS-CPLP

3<sup>rd</sup>  
General  
Meeting of  
RETS

**"The network as space of production of knowledge on education and the work of health technicians"**

November 7<sup>th</sup> and 8<sup>th</sup>, 2013,  
Recife, Brazil

MORE INFORMATION  
+ 55 (21) 3865-9735 – [rets@fiocruz.br](mailto:rets@fiocruz.br)

Dear reader, the great news of this edition is the confirmation of the 3<sup>rd</sup> General Meeting of RETS, being held on November 7<sup>th</sup> and 8<sup>th</sup> in Recife, in Brazil, with the 2<sup>nd</sup> Meeting of its two sub-nets, RETS-CPLP and RETS-Unasur. Besides being an excellent opportunity for the members to meet, the event is a special moment to reassess the work which has been developed in the last four years and to discuss strategies that enable the continuity and even the strengthening of the initiative, which history has begun in Mexico, in 1996.

RETS was created as a response to the result of a great study about the education of Health Technicians in the Americas, coordinated by the Pan-American Health Organization (PAHO/WHO). The idea was that the network served as a space of production and diffusion of knowledge which could guide and provide solid basis for the elaboration of public policies focused to the education and work of Health Technicians. Unfortunately, there were few changes in the scenario identified that moment and the Health Technicians still face great difficulties.

What can we do to resume the Network's origins? How can we make our work more effective? How can we give visibility to these workers that represent the basis of National Health Systems and many times are ignored by the authorities and policy makers of the sector? What can we do to overcome the great challenges related to networking, like the dispersion of its knots and contact issues? These are some of the questions that the Meeting, which preparations are just beginning, will try to answer. For this purpose, however, it is necessary that all members participate in the prelimi-

nary discussions and give suggestions to enrich the presence meeting.

Otherwise, the magazine brings more information about the 3<sup>rd</sup> Global Forum on Human Resources for Health, through an interview with Roberto Esteves, researcher of the Open University of SUS (UNA-SUS) of Brazil, who works with professor Francisco Campos, Executive Secretariat of UNA-SUS and member of the Council of the Global Health Workforce Alliance (GHWA), in the organization of the 3<sup>o</sup> Forum; a story about the importance of information to Health Sector and the role that Technicians can play in this area; and the second part of the text about the education of Health Technicians in Uruguay. As a cover story, the magazine addresses the issue of curricula in educational courses of these workers, bringing some important considerations for all interested in the subject.

Enjoy your reading!

RETS Executive Secretariat.

## ACKNOWLEDGEMENTS

Year 4 – n° 16 Apr./May./Jun. 2013  
RETS Magazine is a quarterly publication edited by the Executive Secretary of the International Network of Health Technicians Education.  
E-mail: [rets@epsjv.fiocruz.br](mailto:rets@epsjv.fiocruz.br)

### EDITORIAL BOARD

Carlos Einisman  
(AATMN – Argentina)  
Carlos Planel  
(EUTM/Udelar – Uruguay)  
César Alfaro Redondo  
(ETS/UCR – Costa Rica)  
Elba Oliveira  
(ENS-La Paz – Bolivia)  
Isabel Araújo  
(UniCV – Cape Verde)

### RETS MAGAZINE

Ana Beatriz de Noronha  
MTB25014/RJ (Editor)  
Elisandra Galvão (Journalist)

Simone Selles (Journalism Trainee)  
Marcelo Paixão (Layout)  
Zé Luiz Fonseca (Designer)  
Maycon Gomes (Designer and Pictures)

### TRANSLATION

Atelier das Letras (Juana Portugal)

### CIRCULATION

2,000 copies

### PRINT

Graphic J. Sholna

### EXECUTIVE SECRETARIAT OF RETS

Joaquim Venâncio Polytechnic School of Health (Escola Politécnica de Saúde Joaquim Venâncio)  
Paulo César de Castro Ribeiro (director)

### COORDENATION OF INTERNACIONAL

### COOPERATION STAFF

Grácia Maria de Miranda Gondim  
(coordinator)

Ana Beatriz de Noronha  
Kelly Robert  
Carolina Viana Dantas  
Elisandra Galvão  
Simone Selles

### ADDRESS

Escola Politécnica de Saúde  
Joaquim Venâncio  
Av. Brasil, 4365 - Mangueiras -  
Rio de Janeiro - RJ - 21040-360  
Phones: 55(21)3865-9730  
E-mail: [cci@epsjv.fiocruz.br](mailto:cci@epsjv.fiocruz.br)

### SPONSOR

TC41 – Secretaria de Gestão do Trabalho e da Educação na Saúde/Ministério da Saúde do Brasil e Opas/Brasil



*Roberto Esteves*

# “The 3<sup>rd</sup> Global Forum seeks to replace the theme HRH as essential in the construction of any Health System”

*By Elisandra Galvão*

PAHO/WHO



Roberto Esteves is a health physician, has a master's degree in Public Health at Yale University and was consultant of the Pan-American Health Organization (PAHO/WHO). Currently, he is a research scholar of the Open University of Brazilian Public Health System (Universidade Aberta do Sistema Único de Saúde – UNA-SUS), where he supports the international area and monitors – together with Professor Francisco Campos, Executive Secretary of UNA-SUS and member of the Global Health Workforce Alliance (GHTA) – the organization of the 3<sup>rd</sup> Global Forum on Human Resources for Health to be carried out from 10 to 13 November this year, in the city of Recife (PE), Brazil. In this interview, Esteves analyzes the two first forums, held in Africa and Asia, the issue of global Human Resources for Health (HRH), the mobilization of GHTA for the event and the anticipated major points of discussion.

**In 2006, the World Health Report was an alert for the issue of global HRH, highlighting the importance of the work force for the sector of health, but also the deficit and bad distribution of workers, the uncontrolled migration and the education which is not in harmony with the needs of the health systems almost everywhere in the world. Since then, did the situation change or are the problems still the same?**

The Report was a milestone because it has brought the topic of the macro discussions of health policies both in national and international environments. There were debates about some important issues for health systems' management, such as the verticalization trend of programs and the access to medication, as well as a major concern with the socioeconomic aspects of health assistance. However, there was no

major reflection on the work force, one of the fundamental components of health systems, both private and public.

Among the countless topics discussed in the report, was the migration of health workers towards important poles of attraction in developed countries and among developing countries, due to changes in the economic or social conjunctures within countries, which generated flows often unexpected, without control records or compensation mechanisms. Thenceforth, this aspect has gained relevance in the international scenario and became a flag which resulted in the approval of the 63<sup>rd</sup> World Health Assembly (WHA), in May 2010, of the Global Code of Practice on the International Recruitment of Health Personnel.

This was a very important change. Today, even requiring some improvements, there are already more accurate mechanisms to monitor health workers' migratory flows. There are also forms of compensation of the countries which import personnel, sanctioned by the international community. We must remember that migration is not necessarily a negative aspect. Many studies demonstrate that migration is usually positive for the migrant himself, who finds better working and remuneration conditions for his effort, also for the donor countries, because this migrant sends substantial consignments of his earnings to his country of origin, helping to boost local economies. The

discussions on this topic, therefore, must consider all these issues, seeking the enhancement of national health systems of several countries.

On the other hand, we still face many problems identified and described in the Report. A typical case is the issue of bad distribution of working force in health within the scope of the countries themselves, not only among them, which in some cases, is quite serious, even in Brazil.

**The creation of GHWA was one of the attempts to keep this theme under discussion and to join efforts to face the difficulties that the sector used to present. How do you analyze the work done by the Alliance during that period?**

GHWA is an association which has had a leading role since the year of its foundation, in 2006, because it is a partnership little experienced in the universe of WHO. After its creation, other similar organizations which seek to bring together different groups of interest in a particular subject had arisen. In the case of GHWA, are gathered not only national governments and international organizations, but also WHO itself, the World Bank and many associations of the civil society, foundations and non-governmental organizations concerned with the issues of human resources for health, as well as health workers – from physicians and nurses to technicians from different formations and community agents – who participate in these bodies. In these ways, GHWA is especially relevant, because it seeks to empower all health workers. At Global Forums, for example, the work of community health agents in the countries that have adopted similar models of attention has been strongly highlighted.

The role of GHWA was also fundamental because it diverted the discussion of the managerial aspects, still difficult to face, to the perspective of health workers, who are on the front line of care, prevention and promotion. The work of the Alliance aims to systematize all experiences, in addition to promote, defend and serve as platform of expression for different groups, especially the least represented, with low power of influence.

**What is the importance of the Global Forums on HRH within this context?**

Among many other things, the forums represent a primordial strategy to keep the issue of human resources for health on the agenda of the international policies for the sector.

**The Global Forum of HRH is an event of great proportions and, despite being closed, for guests only, it always brings great expectations for those who are interested on the topic. What would you highlight as positive in the legacy of its previous editions (Kampala and Bangkok)?**

The choice of Africa, in particular, Kampala, capital city of Uganda, as headquarter of the first forum, held in 2008, already had, by itself, a huge symbolism. The event became a special moment to discuss the topic and also to defend the idea that every citizen should have access to a certified health worker, motivated and prepared to provide health care. The challenges presented in Kampala had established the Global Action Agenda, with a series of goals for the countries and the other actors involved in the search for solutions to the problems highlighted in the Report of WHO and other documents on Human resources for health. The Forum of Kampala, therefore, was a landmark because it laid the foundations of discussion, improving which was have been done by the Report. Its legacy was the Declaration of Kampala and the Global Action Agenda.

In 2011, in the Forum of Bangkok, was analyzed the progress made until that moment, presented successful experiences of facing the highlighted problems and also renewed some commitments, for them to be aligned with another important agenda, the agenda of the Millennium Development Goals (MDGs). In Bangkok was also celebrated the approval of the Recruitment Code.

Rather than trying to identify solutions to known problems, the Forum of Bangkok sought to outline a more effective diagnosis on the context, with special attention for the countries considered more fragile by the Report of WHO; and one of the strategies used was the Country Coordination and Facilitation (CCF), which means to bring the different actors that can interfere in the issues on human resources for health to a discussion table. That means, bringing to a debate not only the ministries of health of the countries, local hosts of these discussions, but also including the ministries of economy, works, education and civil service. Gathering them is necessary to find concrete agreed answers of action to face the problems of HRH.

**In general, when it comes to the issue of HRH in political and institutional spaces, the focus is usually on the so-called health professionals – physicians, nurses and odontologists –, despite the fact WHO recognizes that the base of the systems is made of technical workers, or as WHO mistakenly names, ‘mid-level workers’. It is possible saying that the forums are used to replicate this paradigm or do the guidelines, topics and programming of events reflect any concern of the organizers on this parcel of health workers?**

The Global Forums on HRH have presented a different design in relation to public health meetings. In Bangkok, was highlighted the issue of technical workers, the ones who are the base of health care in several systems. We must not forget that all those processes of discussion and public consultation of policies end up reflecting the pressure that these spheres of public opinion perform on national authorities; and currently one of these demands has been the provision of health professionals, not limited to those ones of technical level or community agents. In many countries, including the ones that already have succeed to form an access basis to health actions with technical workers or even community agents, the population complains about the lack of nurses and, especially, physicians. It is inevitable, therefore, that the discussions return to the issue on how to promote access of the population to the so-called health professionals.

We must give continuity to all these discussions in non-manicheistic way, which means, without considering technicians versus health professionals and understanding the importance of all categories of health workers. It is also worth highlighting that in Brazil there is a movement for the mid-level worker to be treated as a health professional, something difficult to happen in many countries or in cultural contexts in which the work of community health agents is voluntary.

**For the third edition of the Forum, what can health technicians expect in respect to the discussions on education and work which are specific for their professional segment? How the guests are selected and how technical workers, always so invisible for the authorities and managers, will be represented in the Forum?**

I can't tell if they have any specific representation because the participation in the 3<sup>rd</sup> Forum is agreed by the Organizing Committee in which Brazil, represented by the Secretariat of Labor and Education Management for Health, participates as one of the patrons of the event, with GHWA, WHO and Paho. The selection of guests is made by the patrons and other members of the Committee and surely there are representatives of all segments of work force in health and organizations of the civil society that contribute for the organization of the Forum. I hope the presence of technicians happen because, according to the negotiations made so far, 500 people (a third of all guests) is from Brazil.

**The theme of the Forum– Human Resources for Health: foundation for universal health coverage and the post-2015 development agenda–reflects the great concern of global health and has been considered fundamental by the UN. What can we do, in the area of education in human resources, so this theme does not become only another slogan, like it was 'Health for All', or another letter of intent? During the event, will be there any moment of evaluation and debate about what has been established and agreed in the final documents of the previous forums?**

The 3<sup>rd</sup> Forum wants to put the health worker as the basis, the essence that characterizes and materializes the health system of universal coverage. This is not isolated from the context of other discussions on health policies. The World Health Report of 2010 was about the funding of health system as fundamental stage for universal health coverage and started to bring to the surface discussions on providing global health care to the population, also preventing people to spend all their economies on health care.

There is also the debate of the Post-2015 Development Agenda, after the cycle of Millennium Development Goals is closed, which main guiding principle is the access to health. The fact of the United Nations (UN) have proposed in December last year that all countries should aim universal health coverage was a great victory of the health movement in international ambit, because it was the first time it was highlighted outside the environment of WHO for this theme, repeating what has happened with the themes of aids, in the mid 2000; of the access to medication, in 2010-2011; and of chronic degenerative diseases.

There is a work in progress for the Post 2015 Agenda which slogan is 'Realizing the future we want for all'. At the end of May, will be released the report of the task force created by the UN to propose which was supposed to become this agenda and great efforts are being made for health to be highlighted in the document.

The 3<sup>rd</sup> Global Forum seeks to replace the theme on HRH as essence to construct any health system that aims to offer universal coverage to the citizens, so the debate is not limited to the issue of funding or mere access to health services.

**What are the main discussions happening at the event and which are the greatest tensioning points among the debates?**

In addition to the main theme of the 3<sup>rd</sup> Forum, there are five sub-themes and several discussion threads. The first sub-theme is leadership, partnership and responsibility on the processes of health related to human resources and policies of human resources for Health. The second sub-theme is financial requirements for policies of human resources for health. The third sub-theme is to understand the regulatory and legal aspects of the legislative point of view, in the area of human resources, which enable reaching Universal Coverage. The fourth sub-theme is the empowerment of health workers as fundamental condition to reach universal coverage and the last sub-theme is about innovation and research, new approaches on human resources and universal coverage.

In the debate, there are tensions in these five points because there is conflict among the different actors participating in the scenario of human resources internationally, and, of course, in their respective

countries. However, the most conflictive theme is the issue of the lack of physicians, even in Brazil, which, recently, made public the possibility of bringing professionals from Cuba.

Within the international sphere, a polemic theme is funding. Who will pay for hiring health professionals to overcome the lack of physicians and also for their education? There is also the issue of maintenance, recruiting, retention and distribution of professionals in places where they are most needed.

**What does it mean to Brazil hosting the 3<sup>rd</sup> Global Forum? How is it related to the role the country plays regionally and with CPLP (Community of Portuguese Language Speaking Countries)?**

Being held in Brazil has several meanings for us and the international community. It is the recognition of the efforts that the country has been undertaking to implant full access of good quality for the population, with growing investments in this area. It is the recognition of innovative human resources policies that the country is bringing to the international scenario, like building multidisciplinary teams for family health policies, with special highlight to community health agents.

Furthermore, it also shows an opening movement that the country is doing to recognize and share successful experiences of other countries in the field of human resources for health, as well as to influence the international agenda, giving more weight to the area of human resources in the discussions on universal health coverage.

It is important to remember that the choice of Brazil to host the Forum was supported by the other countries of Unasur, which during the Forum of Bangkok presented a motion to the Organizing Committee and GHWA claiming the III Forum to be held in South America. ■

#### **Global Code of Practice on the International Recruitment of Health Personnel**

Available at: <http://bit.ly/10pwphZ>

#### **Millennium Development Goals**

Three of the eight MDGs are related to the area of health, while the other ones influence or are influenced by the right to health.

## Executive Secretariat confirms holding the 3<sup>rd</sup> General Meeting of RETS



The 3<sup>rd</sup> General Meeting of RETS was confirmed to be held on the 7<sup>th</sup> and 8<sup>th</sup> of November this year, in Recife (Brazil). During the event which will precede the 3<sup>rd</sup> Global Forum on HRH (see interview on page 2), will also occur the 2<sup>nd</sup> Meeting of RETS-CPLP and the 2<sup>nd</sup> Meeting of RETS-Unasur. The idea is that the meeting serves as a space for discussion about possible strategies to strengthen the initiative, created in 1996.

In addition, are aims of the meeting: the construction of the Work Plan of the Network and its sub-networks for the coming years and the review/elaboration of the Regulations of RETS and its sub-networks. The official release of the new site of RETS is also predicted. The event's schedule including open activities to the general public will be disclosed soon.

For the organization of the event – sending invitations and proposals of documents to be analyzed by part of the members, among other things – to be done more efficiently, the Executive Secretariat of RETS, which is based in Joaquim Venâncio Polytechnic School of Health (EPSJV/Fiocruz), requests the institutions participating in the network to send an e-mail to [rets@fiocruz.br](mailto:rets@fiocruz.br), to update their registration data. Further news about the Meeting will be available at [www.rets.epsjv.fiocruz.br](http://www.rets.epsjv.fiocruz.br). ■

## RETS-Unasur: meeting of the Advisory Board of Isags and meeting with the representatives of Unasur's PPT



On March 25<sup>th</sup> and 26<sup>th</sup>, the Executive Secretariat of RETS-Unasur participated in the III Ordinary Meeting of the South American Institute of Government in Health (Isags), held in the Institute's headquarters, in Rio de Janeiro (Brazil). The meeting gathered members of the Technical Groups and Structuring Networks of the South American Health Council (Unasur-Health), except the Technical Group of Surveillance and Response and the Public Health Schools Network, in addition to the representatives of the

General Secretariat, the Pro-Tempore Presidency and the Defense Strategic Studies Center (CEED) of Unasur, the Argentinian Alfredo Forti. At the meeting were discussed relevant issues for the work of Isags, as well as proposals about the implementation of POA 2013 and strategic lines for 2014.

The occasion also served to held, on March 27<sup>th</sup>, a meeting of the Pro-Tempore Presidency of Unasur, which in July will change from Peru to Suriname, with the representatives of the Networks and Technical Groups of the Council, which presented the progress made and returned to discuss ways of overcoming difficulties of working.

Learn more about the activities of Isags: [www.isags-unasursalud.org](http://www.isags-unasursalud.org). ■

## RETS-CPLP: Palop's ETS will receive multimedia kits

A project developed within the scope of RETS-CPLP, which aims to contribute to improve the education of technical health workers who live in Portuguese-Speaking African Countries (Palop) by increasing the access of the Health Technical Schools (ETS) of these countries to some of the so-called educational technologies, is already being finalized.

In these terms, all of the 32 ETS existing in these countries will receive equipment that can facilitate the incorporation by part of teachers and students, of new knowledge which contributes for the development of critical awareness and, simultaneously, expand the innovative possibilities of the pedagogical and reflective actions, and reconstruction of the conceptions and practices of health.

The kits, to be purchased and sent for the educational institutions by CPLP, with resources of the World Bank, include: one

LED television, one DVD player, one notebook with two speakers, one multimedia projector and one projection screen with tripod. The choice of equipment was based on a survey previously conducted with the schools that are already members of the Network.

The project considers that the use of new technologies in educational processes is being disseminated and it is necessary to know them so they can be seen as a product or methodology which can be applied for specific purposes and appropriately to the unique pedagogical practices and work processes in health. The idea is that technology must be considered as a way for education to continue to be and end, in other words, that these technologies work as cognitive tools to support teaching and learning and enhancing the development of new educational proposals based on higher possibility for convergence among photography, slide, video, music, text and animation. ■

## Publications

### Medised (Colômbia)



Revista Virtual Paideia  
[www.medised.edu.co](http://www.medised.edu.co)  
[ou migre.me/fb4IN](https://www.facebook.com/migre.me/fb4IN)

### DGGDRH/Minsa (Peru)



Boletín Electrónico RHUS  
[www.minsa.gob.pe/dggdrh/boletin/index.html](http://www.minsa.gob.pe/dggdrh/boletin/index.html)

# Health technician education: special attention to course content (part 1)

By Ana Beatriz de Noronha

## Curricular: meaning that changes along time

The term curricular comes from the latin word *Scurrere*, to run, and refers to course, career, to a course that must be made. To designate an structured study plan, it was used for the first time in 1633, in the Oxford English Dictionary and has accepted many meanings along the history of education.

Traditionally the term takes on the meaning of “study plan”, and seen as a group of subjects to be taught in each course and the time estimated for conclusion. Later, the concept turned to mean the totality of experiences learnt by a child under the guidance of an educational institution, taking in consideration and valuing the interest of the student. The school, in turn, took on the role of the institution responsible for compensating the problems of society in a wider form. The focus of curricular content went from content to form, and the activities began to be organized with a basis on the experiences, differences and individual interests of the child.

From the book *The Curriculum*, by Franklin Bobbitt, published in the United States in 1918, the curricular content established itself as a field for reflection and study, giving birth to traditional theories with a technical basis; critics with a more social view; and even post modernists, whose emphasis is on the analysis of the relation between curriculum and identity formation.

The issue is that the concept of curricular has various aspects and faces constant changes along history, and must be, therefore inserted in the social context that it is inclosed.

Source: Navegando na História da Educação Brasileira (Histedbre/FAE/Unicamp. Glossário: verbete currículo. Solange Aparecida Zotti. Available in: <http://bit.ly/10MGzMt>)

Low schooling level, few skills development and career opportunities, substandard job contracts, subordinated insertion in health teams are only a few of the many problems faced by health professionals, in measures that vary from country to country. Independent of sort or gravity of these problems there is a common trace to all health technicians in all countries: the desire to be recognized and valued in their work, overpassing this way, the numerous limitations imposed by social work division and by the detachment between thinking and making.

Although faced with great methodological difficulties to establish the exact proportion that health technician in all areas represent on every work force sector, there is a consensus that the majority are those who serve directly the population than those who work managing or support. There is also a consensus that this group of people takes on the fundamental role in the global context of strengthening the primary attention and magnification of access towards the universalization of systems.

All of this ends up increasing the concern and need to invest in further better technical education in health taking in consideration various elements that are part of this process, including the course content of different training programs.

## Course content changes: the need to debate this matter

In accordance to the World Health Report in 2006, that reported on the work force for this sector, new challenges for global health demand a new point of view for these professionals' education processes. In this sense, the guarantee of courses quality is pointed out by WHO, as one of the strategies to be employed so that it is possible to align what is taught in schools to the needs of health systems and populations.

To give more strength to the discussion on this issue, the TRTS Magazine took reference at the **masters dissertation** from Carlos Eduardo Colpo Batistella that even though approaches in specific issues to the qualification of health watch in Brazil, in a certain way ends up bringing to discussion universal aspects on the theme.

## The professional identity

According to Batistella, the identity theme is present at the center of contemporary discussions. “In the present phase of capitalism, one of the most common strategies of recomposition of profit is the lay off and reduction of formal job positions”. Notes the researcher, and completes: “The extreme instability of market ends up resulting in a reason for a more pragmatic vision of the corporate world, justifying the flexibility of contracts and the speech of self skill development and self employment”.

BATISTELLA, Carlos Eduardo Colpo. *Tensões na constituição de identidades profissionais a partir do currículo: análise de uma proposta de formação profissional na área de vigilância em saúde*. Escola Nacional de Saúde Pública Sergio Arouca (Ensp/Fiocruz), 2009. Available at: [www.arca.fiocruz.br](http://www.arca.fiocruz.br).

In the health sector, these changes, that reach the universe of conscience as well as the representative form of workers, concern mainly the technicians, whose institutional connection has a way of being traditionally more vulnerable.

## **“The production context of course content is permeated by disputes around distinct society projects”**

*Batistella*

On the other hand, the professional identity ends up being reconsidered by formulators of wider policies in the health field as something that might favor team work, a more human approach and political and ethical commitment of workers towards the health system and population health. In this scenario, education earns the status of privilege space of its construction. For Batistella, the discussions on competence profiles and guidelines that will give guidance to new course content approaches also gain importance on the hand that reflect the identity tensions present in the context of existing production curricular texts.

“The knowledge selection process indicates an intention in the identity shaping of professional identities that needs to be investigated, since the production context of course content is permeated by disputes around distinct society projects” says the researcher. “The struggle against hegemonic to unrestrained adoption of policies of performance of professional education – materialized in the pedagogy of competences – take us on a reflection to the possibility of construction of collective identities based on the principles of social justice and in counterposition to individual practices disseminated in the name of market”, he says.

### **What kind of professional do we want to form?**

Among the many questions that we must ask when elaborating the course content is related to “whom” we form, or as Batistella indicated, to the identities that will be projected in these course content. The biggest problem, in his opinion is that generally this concern is referred only to one conclusion profile identified by one main functionalist of the work process to whom are prescribed the knowledge, skills and attitudes that will be part of the course content.

“It is important to have in mind that the construction of professional identities requires processes much more complex, referred to a more broad qualification of workers and that, this way, we should consider also professional career development, the insertion in services and work relations developed there”, emphasizes, explaining: “The non consideration or intentional deletion of pre existing identities can, for example, generate the lack of interest of subjects in the educational process. On the other hand, the differences in the course content can generate a sense of belonging capable of effectively moving the student/worker, unlocking consequently the desirable processes of identity recovery”.

### **The ephemeral identities in a global world**

According to Batistella, if we initially comprehend the identity as an important element in the process of constructions of links that keep individuals and groups together, we cannot deny that we are living a moment of significant changes that in a parallel movement, bring not only lack of stability but also reinforce the relevance of studies on identity to be able to comprehend these contemporary social facts.

Frequently associated to the structural crisis in capitalism in the decade of 1970 and to the decline of socialist experiences in Europe, the globalization process can be seen as a group of economical, political, cultural

and social transformations that seek to grant more dynamic aspect to contemporary capitalism.

With main characteristics such as the free market and great flow of international funds that benefits from the existence of new information and communication technologies, it influences as well all dimensions of human life.

Economically, the process of globalization tends to, according to many authors, favor the expansion of big transnational and industry corporations. In a political point of view, it is agreed that this new context weakens the State autonomy, while it stimulates the reorganization of countries in commercial blocks and supranational corporations that act generally aligned to neoliberal ideas and place social intervention purposes from the government in a second place.

In this scenario, as recollects researcher from EPSJV, the big corporations tend to worth their multiple territoriality to seek competitive advantages in different political scenarios. For this reason, they develop science and technology in the central countries, use cheap labor in outermost countries and make use of fiscal incentives offered by developing countries.

On the other hand, in the cultural aspect, globalization simultaneously of culture of consumerism dissemination with the constant transformation of material and symbolic goods and in the tension between local and global, counter placing tendencies and cultural homogenization and resistance effects and reaffirmation of localism and nationalism.



The complex cultural diversity, joined with racial, ethical, religious, sexual among other differences, implies in the elaboration social policies that reflect the existence of different cultures in a same territory and that attend to minorities needs.

On the social point of view, the comprehension of space-time of globalization transforms numerous aspects of daily life having a direct impact on personal experiences.

Quoting Zygmunt Bauman, Batistella notes the fact that this picture favors the weakening of “links that interlock individual choices in projects and collective actions”. “The patterns and configurations that made possible the belonging to certain reference groups are not given or evident anymore, giving individuals the need to seek for themselves and for their recognition”, stressing “For Bauman, in present days, what he denominates as ‘liquid modernity’, individuals no longer are born in their identities. The process of individualization substitutes the social determinations with a compulsive self determinations, that is, what was before something given becomes a task that brings on serious consequences and ‘collateral effects’ for the individuals”, completes.

To survive in this competitive environment of global capitalism, social organizations must seek continuous restructure and, in this process, the former rigid hierarchic structures of corporations give place to more flexible and light configurations of networks. These changes obstruct these new organizations to serve as reference to human actions and existence strategies on the long run.

All these transformations of economical, political, social and cultural aspects end up putting in evidence the matter of national identities – forged historically in the means of different forms of cultural power – and personal, that are each time more temporary. This changes usually value the flexibility and development of individual competences as fundamental values for survival in the system. The very own communities that have defined our identities, become each time more ephemeral e circumstantial, exposing subjects to internal conflicts, ambivalences and contradictions.

## Identity and difference

In his work, Batistella alerts to the fact that the inclusion of the identity category in contemporary debate implies in the need to think also the matter of ‘difference’ since one does not exist without the other. “The subjects define their identity relating to the other and, in this process, the differences establish the limits and frontiers between the groups. It is by the means of these differences that it is defined who belongs or not to a certain group”, adds the researcher.

The issue of difference earns a protagonist role in the present day and that is evident when homogenizing policies, focused in ideas of unity and national identity that begin to give way to multicultural policies, based on recognition and the possibility of integration of theses differences.

This recognition, on the other hand, compels to, according to Batistella, a reflection on the different forms, many times opposite to each other as how they were treated historically.

“We can observe in assimilation approaches where the proposal was to create compensatory policies aiming to integrate the differences to the hegemonic culture. In the differentiation multiculturalism’s perspective, the recognition of differences resulted in the guarantee of specific spaces for expression of the different identities what, in some way, end up favoring the emerging of new sociocultural apartheid. Finally, under the intercultural perspective, what we seek is to promote the interaction between the different groups, understanding the continuous cultures and taking in consideration that cultural exchanges are permanently overpassed by means of power, prejudice and discrimination, as well as being linked to existing inequalities in each society”, sums up Batistella.

## The course content and the formation of professional identities

The professional education, one of the most important dimensions of **qualification**, occurs as much in education institutions as in work environments. It can hap-

## “We need to consider the curriculum himself as a concept that bears many meanings”

*Batistella*

pen is several ways, initial or continuing training –, and of different modalities and levels – technical training, bachelors degrees graduate and post graduate degrees –, depending on each countries’ legislation and objectives aimed. Nevertheless, as Batistella quotes, whatever the training process that we take in mind, it is always possible to have a course content, meaning a way to conceive e organize pedagogical practices that permeates this process.

According to the researcher, the formation of this course content implies that, among other actions, in the selection and organizing of learning experiences and knowledge necessary to individual training, citizens and professionals with the desired profile. “Since this profile corresponds to projected identity, that is, a way to perceive and act on a given reality, that we seek to develop in all learners, we can claim that the course content performs a very important role in the formation of professional identities”, explains.

The issue, according to the author, is that there are many understandings and representations on the course content and different curriculum theories that end up generating different ways of relationships between the curriculum and identities. “We need to consider the curriculum himself as a concept that bears many meanings”. he emphasizes.

## Looking for a concept

“The difficulty of finding a concept for the curriculum is obvious even

The notion of training can represent a very important contribution to the deepening on the debate for professional identities, enriching the critical analysis of the social reality in work environments. The biggest concern is that, because of its polissemic characteristic, the term is very frequently used only as a justification for an probable ‘unavoidable’ adaptation of work force to new market demands.

among educators. The simple mention to the word curriculum evokes very different images and ideas, such as objectives, plans, tables, content selection, courses, trajectory, axis, project, practices, political dispute arena, ideology, identity and speech”, highlights Batistella, remembering that even though practices are designed that constitute the history of education itself, the use of this term as a pedagogical concept is relatively new.

He also notes that the term ‘curriculum’ is not only present in educational areas and that in the work sphere, as curriculum vitae, represents the training course and work experiences of individuals, directly associated to the level of skill to which the person presents himself to a job.

“From a perception usually associated to formal aspects and prescribed, the curriculum is also seen as a practiced curriculum, lived among the contradictions of educational daily life. From a technical and functional perspective, that debates only the possible methodological strategies capable of giving more efficacy to training, the curriculum becomes the dispute ground for identity construction where institutions act as or with more efficacy as schooling institution, such as media, advertisement and cultural industry”, he explains.

In this sense, he also draws attention to the risk of widening even more the analysis universe. “If everything is curriculum, how can we search for answers to daily challenges that we come across?”, he alerts, complementing: “Generally, all possibilities of action evaporate”.

## At the base of everything: the classical course curricular content

As Batistella indicates, the idea of knowledge selection and practices considered desirable to individuals’ training have always been present in the pedagogical thinking, but we cannot designate a proper curricular theory before the 20<sup>th</sup> century.

“Even without the curricular denomination, the different pedagogical traditions made an effort to define what they considered to be fundamental to learning processes. Since the beginning of the first schools, in Egypt and ancient Greece, with their rhetorical literary culture and respect to rigid socially established rules, and through christian pedagogy and scholastic, the variety of learning models that developed along historical periods have always been side by side to proposal and theories on the human training”, he explains.

Taking Franco Cambi’s ‘The history of Pedagogy’ (1999), the researcher tells us that the classical humanist curriculum has its roots in ancient Greece where **Paideia** represented the search for the “ideal of human training nurtured by culture and civilizations”: “In accordance to Cambi, greek education makes use of esthetic and philosophical reflection to promote secular, rationalized and universal culture, turning it distinct from other Mediterranean civilizations”.

According to Franco Cambi, such model results in a very detailed organization of the educational system of the **hellenistic period**. For elementary school where students would access at the age of seven, learning involved reading, writing, grammar, music and drawing. At the age of 12, in secondary school, learning focused on grammar, rhetorical, logical, mathematic and literature studies. Museum and libraries were the center for superior schooling whose model were the philosophical school, that later on privilege the observation of nature and the science of numbers.

Initially the word paideia meant simply “boys upbringing”. Gradually, it began to represent an ideal for educational training whose objective was to develop full potential and turned individual into better citizens.

The hellenistic period lasted for around 300 years, beginning at the death of Alexander, The great, whose military conquests took the greek civilizations to Egypt, Macedonia and Syria, and through to approximately 30 B.C. When the romans conquered Egypt. The period is characteristic for the ascension of science and knowledge and for the dominion of greek culture in the region.

Later on graduate education in the Medieval and Renaissance Era takes the Greek course curricular content as a model that establishes itself in the trivium form (grammar, rhetoric and dialectic) and quadrivium (astronomy, geometry, music and arithmetic). The difference is that, in humanism, education has the objective to reconquer the political, artistic, technical and scientific possibilities for man, while in the medieval-scholastic, the curricular content placed god and faith as the centre for everything.

The outbreak of childhood as construction and social category also raises new demands for education and, consequently a few alterations in teaching.

The substitution of feudal production model for the capitalist model, the Scientific Revolution, the Enlightenment era, the French Revolution and the Industrial Revolution also raise, for various reasons, important changes in the systematization of course content.

In all of history of education, it is possible to perceive how much the content has changed as well as the teaching form, the emerge of the curricular content as an specialized study field and research, nevertheless, would only occur, according to Batistella, at the end of the 19<sup>th</sup> century, in the United States, amongst the concerns with the rationalization processes, systematic and control of schooling institutions and of the course curricular content itself.

It is, therefore, from this period, that different theories on the subject begin to be formulated and that will be presented in the next editions of this magazine with the purpose to foment the debate on this matter. See you then! ■



# Medical records and health information technician: education must be in compliance with the importance of the function

By Elisandra Galvão and Ana Beatriz de Noronha

In the area of health, **information** is fundamental for the population in general; for the health workers themselves, in the performance of their duties and improvement of their professional skills; for the managers of health institutions; and the authorities responsible for decision making. Medical records and health information are essential because they enable, among other things, healthier choices for people, exchange of knowledge, democratization of health, improvement of management and social control on available resources.

Planning, evaluation and management of health services are based on the data available and the quality of information is fundamental for health systems. In these terms, it is possible to say that, by guiding the planning and monitoring of actions and services, subsidizing the evaluation on the impact of these actions within the reality of health care in the country, the

sector of medical records and health information becomes strategic for the improvement of national health systems.

Just like other systems, **Health Information Systems** (HIS) include many components, the relations among them and the purposes that establish the creation of the system itself. On the other hand, its good functioning depends on the availability of resources and technologies, which enable the information produced to be organized, transformed and available in such a format that enables decision making. The ability of a system to provide adequate information to health management processes concerning type and level of disaggregation, quality and data update, demands, among others, a close relationship between the main users and producers of these data.

In general, HIS bring together and handle information from multiple sources. There are data and information generated by the health system itself – births, hospitalizations and diseases, among many other things –, demographic, socioeconomic and environmental data about the determinant factors of health situation produced by other sectors and even information available in technical-scientific documents related to this field of knowledge.



“Could you tell me, please, which way I ought to go from here?” asked Alice.

“That depends a good deal on where you want to get to”, replied the Cat, sitting on the branch of a tree, with his enigmatic smile from ear to ear”.

(*Alice's Adventures in Wonderland*, Lewis Carroll, 1865)

For many people, information is indefinable. Its concept is vague and intuitive. About it, just like about time, space, strength, distance and probability, among others, we can – as Thomas Kuhn would say – if anything, provide examples, not definitions.

For the authors that propose defining information, one of the most used criteria is the one about its purposes; among them, making action efficient, reducing uncertainty and transforming structures.



Photos: Elisandra Galvão

However, selecting contents to be inserted in HIS is only the beginning of a rather complex process which turns technical-scientific data and information collected into information able to meet the needs of the sector. After selection, it is necessary to identify the sources to be used – survey and administrative records, among others. The

systematization of data in the form of indicators that enable monitoring; the validation of the consistency of such data and indicators and the organization of bibliographic bases are some of the following steps. All of that, however, would be meaningless if they are not carried out systematic, conjectural and trend analyses, which conclusions and rec-

ommendations are legitimized by means of institutional processes and published clear reports able to guide decision-making and offer alternatives to managers. Finally, it is always important to disclose, in adequate language, content focusing specific publics which work in the area of health or may somehow collaborate with health care actions.

A system can be defined as the integrated group of parts articulated for common use. In the case of information systems, this might refer to distinct aspects such as: (1) the set of production plants, analysing and disseminating data that work integrated and articulately with the purpose to meet the demands for which it was designed; (2) the gathering of people and machines aiming at obtaining and processing data to meet the information needs of the institution that implements it; (3) the set of administrative structures and production plants, perfectly articulated, aiming at obtaining data upon its registration, collection, processing, analysis, changing into information and timely disclosure.

In these terms, a Health Information System (HIS) must be understood, according to WHO, as a mechanism of collection, processing, analysis and transmission of information necessary to plan, organize, operate and evaluate health services. Therefore, the HIS must be able to change data into information, besides enabling democratic disclosure of this information, to provide analysis of the situation and recommendations to the action not only of governments and managers, but also users, international organizations and social movements.

Generally speaking, the HIS seek to present information on the demographic and epidemiological contexts of the countries, the health system's structure and coverage, the physical, material and human resources and the financing. They can also present data on the management, the voice of the users and the health systems' recent innovations.

The improvement of a HIS through gradual establishment of articulated working process which is methodologically appropriate to management needs depends on continuous accomplishment of this feature. The systematic use by those who manage information generated by the system is also fundamental for the generated information to become a subsidy more and more consistent in decision-making.

Although its extreme importance, not always does the issue of health information receive the necessary attention of national authorities. As a result, this area is developed in different rhythms in several countries depending, among other things, on the creation of specific policies for the sector, on the amount of investments carried out and even the quality of education for Health workers focusing data collection and analysis of the available information.

## HIS are not made only of epidemiologists

In January this year, one of the issues addressed by the members of the list of discussions of **Hifa-PT** was the role played by those who work in the area of health information graduated in many areas of actuation: librarianship, archiving, communication, statistic, informatics and others.

Within the scope of health are the managers and workers of many institutions with many types and levels of education who produce and organize information about the epidemiological profile of the population, services provided, materials and medicines consumed, to understand the situation of health and care provided. With regard to these professionals, even though the main role seems to belong to the epidemiologists, it is impossible to deny the importance of the technicians in medical records and health information, who work in the organization, administration and coordination of services of documentation, records and statistics in health.

These technicians support patient care, because they are responsible for the organization of medical records and charts; they also help planning, control and evaluation of actions and services of health and are able to work in the support to clinical researches and studies. They are usually known as health care workers, but their function keeps a broad interface with the areas of management and planning.

The role of this technician is broad because it also includes activities of storing, labeling and keeping records and processing data, producing health information as managerial and epidemiological indicators and statistical reports. The production of information is also done through Information Systems, structured in activities of data collection, processing and consolidation of information. The systems can use paper forms and printed bulletins, new technologies of information and communication, with Information Systems on the internet, both for data collection and consolidation of indicators and disseminating information. Everything must work in integrated way. One of the documents used as main source is the patient's medical records used by some nationwide systems.

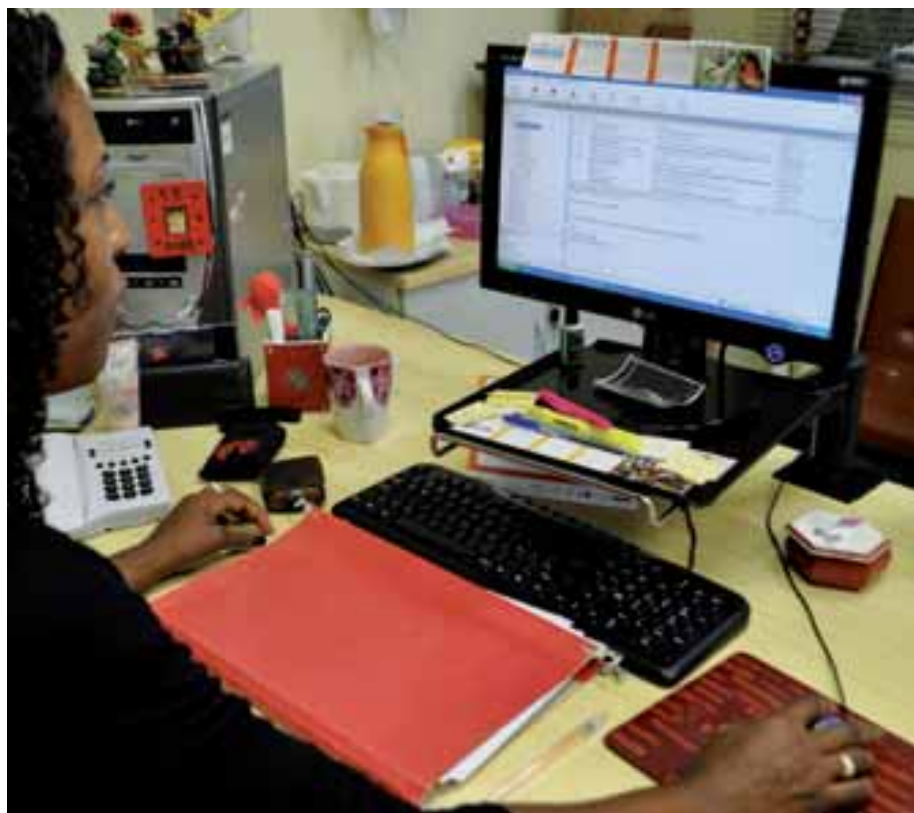
According to Sergio Munck, one of the coordinators of the Technical Specialization Course in Production and Records of Health Information, of Joaquim Venâncio Polytechnic School of Health (EPSJV/Fiocruz), explains the work of these technicians in greater detail. "Today, I see the role of the technicians in two situations: at the edge, at the service, registering information, keeping direct contact with the patient, or doing classification from medical documentation. Whenever the physician cares the patient at the ambulatory,

Hifa-PT is result of the partnership between the Global Healthcare Information Network/HIFA2015 and the Network ePORTUGUÊSe, a platform developed by WHO to promote the collaboration among Portuguese speaking countries in the fields of information and education on Human Resources for Health. Portuguese is the seventh most spoken language in the world, the third most spoken language in the Western hemisphere and the most spoken language below the Equator line.

he surely registers in the medical form or medical record any pathology classified in the International Classification of Diseases (ICD) of the World Health Organization (WHO). The technician's responsibility is to collect and record the information registered by the physician. That means the technician usually deals with the most primary data, the assistance's raw data. Which does not imply that he is not able to calculate the indicators, activity that is usually performed in Health Secretariats", comments Munck.

According to him, these data allows us to analyze what does the Health Care Unit produce and are basic to construct indicators to measure the profile of morbidity and mortality of the population, the productivity, medical consultations, hospitalizations and average of patients' stay in beds. All of this is still done through the information system. "The technicians of this area are truly important, no matter if they are edge technicians or technicians of different status. Their work is not just about the simple record of information. They also have the possibility to handle and treat information.", remembers the coordinator.

"The technicians' role is fundamental and I could prove this in my professional practice. I have taken a course of disease classification with a professional who had only high school education and I have seen him questioning health professionals about what was written in the medical record, about something that was not in accordance with which was recommended by the international standard. From his questioning, they have reformulated a diagnosis. I think it is worth we also invest in the education of technicians, not only physicians and nurses", defends Munck.



## We need to invest in education

Munck remembers that the course he coordinates at EPSJV/Fiocruz was created in 1986, based on a proposal of the Pan-American Health Organization (PAHO/WHO), which inspiration was an experiment done in Central America. The same proposal was taken to the USA, but there would be a course to nurses. Today, according to him, the students of the three specialization courses for technicians offered by Fiocruz in this field of knowledge – the course of Production of Information and Health Records; the course of Information and Health; and the course of Information in Health and Medical Records of Cancer – learn that the appropriation of information, either in service or through medical records is translated to the benefit of the citizens. For Munck, the quality of record walks together with the quality of assistance provided. “When we make a move to improve the Information System, it ends up generating a move for the quality of assistance”, he guarantees.

According to Munck, the technician must have good knowledge about the concept and flowchart of the system, the public policies of health within the context of his/her own country, the national policy of computers and information; political content and contextualization that help the professional to know in which universe he/she is working. In addition, he/she needs to know how to

use computer tools, basic statistics, epidemiology and demography in health, so he/she can take a broad view and discuss issues related to health information. “Providing better education to these technicians can help improving health services from the inside out, so it is necessary that managers understand the importance of permanent professional qualification of these workers”, he defends.

He found out there are few programs to educate technicians for this sector and regrets they are still not valued as they should. And, if in Brazil, the result of a recent study about the technicians in health demonstrated that the education is still below the needs, the reality in other countries does not seem so different. “EPSJV/Fiocruz constantly receives requests of courses for other Brazilian states as well as African and Latin American countries. The greatest problem is that usually there is no continuing education because of the difficult to allow workers to leave their workplace so they can attend classes. It is no use creating courses to educate few people, thinking that it is enough to meet the needs. When the worker is back to his/her workplace, if he/she feels isolated as an island, free in an addicted stagnant system, the education provided would be no use if he/she is not integrated into a system in permanent process of reformulation; all knowledge acquired will be lost. It is necessary greater involvement of the managers and commitment of the educational institutes”, he warns. ■

### Websites of interest:

Global Health Observatory (GHO/WHO): [www.who.int/research](http://www.who.int/research)

Afro/WHO – African Health Observatory: [www.aho.afro.who.int](http://www.aho.afro.who.int)

Paho/WHO ([www.paho.org](http://www.paho.org)) > ‘Data and Statistics’

Argentina – Sistema Integrado de Información Sanitaria Argentino Ministerio de Salud de la Nación: <http://sisa.msal.gov.ar>

Brazil – Departamento de Informática do SUS (Datasus): [www.datasus.gov.br](http://www.datasus.gov.br)

Brazil – Rede Interagencial de informações para a Saúde (Ripsa): [www.ripsa.org.br](http://www.ripsa.org.br)

Brazil – EPSJV ([www.epsjv.fiocruz.br](http://www.epsjv.fiocruz.br)) > ‘Ensino’ > ‘Especializações Técnicas’ > ‘Cursos da Área de Informação e Registros em Saúde’.

Chile – Departamento de Estadísticas e Información de Salud (DEIS/Minsal): [www.deis.cl](http://www.deis.cl)

Colombia – Sistemas de Información en el Sector de Salud em Colombia (Alba Marina Rueda Olivella, 2013): <http://slidesha.re/12qAjMv>

Ecuador – Sistema Nacional de Información (SNI): [www.sni.gob.ec](http://www.sni.gob.ec)

Peru - Ministério de Salud – Estadística: <http://bit.ly/13FBoAH>

Uruguay – Curso de Registros Médicos (EUTM/Udelar): <http://bit.ly/12fTM1i>





## Uruguay (part 2)

In the context of RETS, technical work in health is considered the work performed by the group of workers doing technical-scientific activities in the sector and includes both community health agents and auxiliaries and higher level technicians.

To present a general framework of health technicians' education in the countries represented in the Network and give more visibility to the work of these workers, was created the section 'Health Technicians Worldwide', which, in this edition, presents the technical careers regulated in Uruguay. The text is a complement to the material published in the 15th edition of RETS Magazine, which presented an overview on Uruguay's educational system, the origin of technical education in the country and the role of the University of the Republic (Udelar) in technical education in health.

### The 18 courses of EUTM/Udelar

#### Pathological anatomy

Pathological anatomy (histopathology) works with the diagnosis of diseases based on macroscopic and microscopic exams. The technologist, also known as histotechnologist, evaluates and control biological materials to make them adequate to microscopic and, eventually, macroscopic analysis; for diagnosis, teaching or investigation purposes. His work is performed in independent way or in health multitasking teams in public and private laboratories, healthcare companies, in addition to non-medical (odontology, veterinary, industry etc.) and educational (primary, secondary and tertiary) areas.

When receiving the exam's request, the technician must verify if it is all in accordance with the standards and regulations specified. During the exam, he must be able to handle the necessary techniques and equipment, to achieve the information wanted, processing, recording, evaluating technically and estimating the diagnostic value of such information. The final report of the exam must be done by the responsible physician or specialist. The course lasts three years.

#### Medical Cosmetology

It is the pharmaceutical area which researches, develops, elaborates, produces, sells and applies cosmetic products. The course lasts three years and graduates technicians who work in the prevention, detection, education, care and rehabilitation of people with healthy skin and cutaneous pathologies.

The work developed by this professional is prophylactic, educational and caring. His work is performed in health multitasking teams or health assistance teams, in private and public healthcare companies, in addition to industries and companies responsible for products of cosmetic use and labor activities involving cutaneous risks to workers.

#### Physiotherapy

It is the science applied to prevention and healthcare through physical resources. After coursing the four years of the licentiate course, the physiotherapist can develop works focused to the promotion, prevention, recovery and physical and sensorial rehabilitation, being part of health multitasking teams.

The professional can work as self-employed and develop his functions in sportive and artistic areas, Primary Health Care (PHC), and in healthcare and educational institutions. The professional graduated in Physiotherapy is able to, based on medical diagnosis; decide the methodologies and techniques to be applied in the patients' recovery, taking responsibility for the treatment. This graduation is also offered by the Catholic University of Uruguay (Ucudal) and by the University of the Company (UDE), a private educational institution where it is also provided technical graduation in Physiotherapy, after the third year of course.

#### Speech Therapy

Speech therapy is the science which develops activities of research, prevention, diagnosis, evaluation and treatment of human communication diseases.

After the four-year course, the graduated professional in speech therapy can work in the areas of speech, hearing, language and deglutition, with the aim to improve the patient's condition on the articulation and fluency of the voice, delays in his development and loss of speech ability. His professional activity can be as self-employed or in educational institutions and public and private community clinics.

## Hemotherapy

This is the sector dedicated to the study of the blood, its disorders and diseases. Currently, Hemotherapy is highlighted as mixed discipline, based on Biological and Scientific bases, using Physiology.

After three years of course, the technician in hemotherapy can work in all areas of public and private healthcare, especially in hemotherapy unities (blood banks), transfusion services, and fixed and mobile collection unities. The work routine is related to the blood cycle and healthcare procedures, responsible for the clinical capture and screening of blood donors, collection, immunohematologic and serological study, manual or mechanical processing, conservation and human blood transfusion.

## Imaging

It is the study of organs or structures using radiation or other methods with physical bases, generating an image.

During the licentiate course, which lasts four years, this professional is allowed to work in the production and diagnosis of images. In his professional practice, he monitors from the preparation of the patient and environment for exams to the handling of equipment and images production.

He also develops activities integrating health multitasking teams performing his specific functions following medical prescription, in services of radiology and image diagnosis in hospitals, clinics, basic healthcare unities and other areas with imaging activities (veterinary, industry etc.).

UDE also offers the licentiate course, with title of technician in Imaging after the third year.

## Surgical Instrumentation

In this four-year licentiate, the student receives theoretical-practical education adequate to the accomplishment of all technical activities in handling and care instruments and equipment used in several surgical interventions.

As a licensed professional, his work is performed in public and private healthcare centers, common and special surgical facilities, where he administrates the human resources and material of the surgical facilities, quality control of the instruments and materials, in addition to monitoring the sterilization and asepsis process.

## Clinical Laboratory

The technician graduated in this area helps and executes activities necessary to the diagnosis in Clinical Biochemistry, Immunology, Hematology and Microbiology. He is responsible to obtain and process samples for analysis, such as blood collection and then, giving the result. In his work, the licensed professional does all procedures or analytical techniques developed in the clinical laboratory with preventive purposes, of therapeutics or evolution control of diseases.

He is part of health multitasking teams and performs his activities in laboratories of clinical analysis, investigation, clinics and hospitals. The clinical laboratory licentiate, which lasts four years, is also offered by UDE, where the student can get the title of technician in Clinical Laboratory after three years.

## Clinical Neurophysiology

The licensed professional in clinical neurophysiology does procedures of physiological evaluation in the areas of Electroencephalography, Polygraphs, Polysomnography, Peripheral Nervous System and other specialization procedures. He also develops data collection techniques necessary for the diagnosis, investigation, advice and prevention of nervous system disorders.

All services can be developed alone or in health multitasking team. After the four-year licentiate, the professional can perform his work in private medical offices, patient's house,

public or private institutions in areas of Neurology, Neuropediatrics, Neurosurgery, Pediatrics, Neonatal Unities, Surgical Unities, Intensive Care Unit, Post-anesthesia recovery and Nephrology.

## Ophthalmology

It is the science of education, prevention, rehabilitation and application of ocular diagnosis and therapy procedures. The preventive area's aim is the early detection of eye problems in all age groups and, through education, promoting better habits to keep vision healthy.

In the four years of course, the licensed professional in ophthalmology acquires the technical knowledge necessary in decision-making on methods and techniques of diagnosis and rehabilitation to be applied on patients.

Hospitals, asylums, private medical offices, schools, labor facilities, among others, are fields of work for the ophthalmologist, who can also be part of health multitasking teams and health multiprofessional teams.

## Pulmo Cardiology

At the licentiate course, the student acquires the skills necessary to execute diagnosis techniques and healthcare within the areas of Cardiology, Pulmonology, Intensive Care Unities, Post-anesthesia recovery and cardiac surgery.

The activities under responsibility of this professional can be performed in patients' houses and public and private institutions. In emergency services, he executes his tasks individually or as part of a health multitasking team.

## Podiatry

After three years of studies, the Technician in Podiatry is able to identify diseases and disorders of the feet, selecting and executing podiatric procedures for different pathologies, including evaluation of foot alterations and deformities; and applies basic foot reflexology techniques.

He can work by himself or in private and public healthcare centers, as part of health teams within the areas of Surgery, Dermatology, Diabetology, Geriatrics, Sports Medicine, Pediatrics, Rheumatology and Traumatology, among others.

## Psychomotor

It is the transdisciplinary field that studies and investigates the reciprocal systemic relations and influences between psyche and motor.

The licensed professional in psychomotor does stimulation, education, reeducation or expression and body intervention therapy, in which he studies and compensates the inadequate or maladjusted motor expression in many situations, usually related to development or psychomotor maturation issues, behavior, learning and within the psycho affective ambit. As a technical worker, he can perform his functions in educational institutions and healthcare centers. He can also work as self-employed. The licentiate course in Psychomotor can also be studied at Ucdal.

## Radioisotopes

In a three-year course, the technicians in radioisotopes are taught the skills necessary to perform diagnosis and therapeutic procedures, which use radioactive substances in open sources, as well as teaching, investigation and administration tasks within his area of actuation. These workers assume positions of assistance, investigation, teaching and administration, aiming at preventing, maintaining and recovering the health level of both the community and individually. They develop their tasks in nuclear medicine services and in public and private clinical laboratories.

## Radiotherapy

Radiotherapy is the method able to destroy tumor cells, using high-energy radiation beams. At the three-year course, the technician is able, among other things, to interpret the medical indication, planning care, calculating the volume to irradiate, defining the organs or regions that must be protected from the radiations and monitoring the secondary effects of the treatment.

In his work he is able to handle all equipment used, as well as radioactive material, controlling its storage, doses to be used and radio protection practices. He must also have skills that enable the correct relationship with cancerous patients

and their relatives. His work is performed within the ambit of health multitasking team formed by radiotherapist physician, medical physicist, dosimetrist, social worker, psychologist and nurses.

## Medical records

The professional of this area has the function of maintaining all medical records complete and up to date, to be used in treatments, charges and statistical researches. His routine is idealizing, maintaining and implementing processing systems for conservation and extraction of Health Records in medical facilities and other healthcare places.

EUTM offers the four-year licentiate course, also offering the title of technologist, after three years. The licensed professional is taught skills to plan, organize and run a Medical Records Unit in any institution and perform investigations with health teams within the area, integrating specially the committees of the medical team which analyzes and rates the care provided to the patient, quantitative and qualitative. The technologists must collect, analyze and process data, in addition to store medical documents to promote the study of the information collected so they can be used in healthcare programs.

## Occupational Health

It is the area focused to promote work conditions that guarantee physical, mental and social health for the worker, preventing and controlling the accidents and diseases through the decrease of the conditions of risk.

After three years of studies, the technologist in occupational health is able to recognize the risks of several production processes, promote preventive actions with the help of methods and techniques of identification, evaluation and measures to control environmental risks with a health multitasking team. He can work in public and private institutions, representatives and manufacturers of security equipment.

## Occupational Therapy

Occupational therapy is a science focused to the analysis and application of therapeutic techniques in people with physical, mental and social disorders, with the aim at contributing to the improvement of the patients' quality of life.

The practice of the licentiate occupational therapy career covers evaluation, treatment and consulting. The professional intervention aims at promoting wellness, decreasing or correcting disorders, stimulating and reinforcing functional abilities, which make the individual more adapted to his social environment. The licensed professional is the responsible to indicate functional adaptations that can facilitate the daily activities (feeding, locomotion and communication). The professional is part of health multitasking teams and performs activities in healthcare centers, hospitals, schools, among others.

## Other graduations in Health

- School of Medicine (Udelar): Health Promoting Technician and Prevention of Diseases – four years (intermediate title of Medicine under graduation).
- School of Dentistry:
  - Dental Assistant (Udelar and Ucdal) and Hygienist in Dentistry (Udelar) – two years (intermediate titles of Dentistry under graduation);
  - Laborer in Dentistry (Udelar) – four-year course.
- School of Nursing (Udelar, Ucdal and UDE): Nursing Auxiliary – two years (intermediate title of Nursing under graduation).
- Higher Institute of Physical Education 'Prof. Alberto Langlade' (Udelar): Lifeguard (one year); Water Activities Technician (two years); Basketball Technician, Soccer Technician, Athletics Technician and Sports Technician (two years).
- School of Nutrition (Udelar): Food Operator Technician (two years).
- School of Psychology (Ucdal): Therapeutic Monitoring Technician (two years) ■