

Essential public health functions in the nursing curriculum at Federal University of Rio Grande do Sul

FUNÇÕES ESSENCIAIS DE SAÚDE PÚBLICA NO CURRÍCULO DE ENFERMAGEM DA UNIVERSIDADE FEDERAL DO RIO GRANDE DO SUL

FUNCIONES ESENCIALES DE SALUD PÚBLICA EN EL CURRÍCULO DE ENFERMERÍA DE LA UFRGS

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RESUMO

O referencial das Funções Essenciais de Saúde Pública (FESP), da Organização Pan-Americana da Saúde, foi desenvolvido para melhorar o desempenho da saúde pública, o qual depende da formação dos profissionais de saúde. Foi realizado um estudo de caso com objetivo de identificar a inserção das FESP no Currículo do Curso de Graduação em Enfermagem da Universidade Federal do Rio Grande do Sul. Foram definidas palavras-chave a partir das definições das onze FESP, procedendo-se à busca nos planos de ensino das disciplinas do Currículo. Verificou-se a inserção de dez FESP, sendo a de maior ocorrência a de desenvolvimento de recursos humanos e capacitação em saúde pública. O Currículo em estudo contempla algumas FESP de forma mais intensa, o que deve propiciar a formação de enfermeiras capazes de contribuir para o desempenho destas. É necessário inserir as demais, contribuindo para o bom desempenho da saúde pública pelos profissionais formados na instituição.

DESCRIPTORIOS

Currículo.
Saúde pública.
Educação em enfermagem.
Escolas de Enfermagem.

ABSTRACT

The Pan American Health Organization referential of Essential Public Health Functions (EPHF) was developed to improve public health performance, which depends on professional education. A case study with the objective of identifying the insertion of EPHF in the curriculum of the nursing undergraduate course at Federal University of Rio Grande do Sul was developed. Keywords were defined from the definitions of the eleven EPHF. These were searched for in the class plans of the curriculum courses. Ten EPHF were identified, with major occurrence of the human health resources development and training in public health. Contemplating more intensively some of the EPHF, the curriculum under study should propitiate the education of nurses capable of contributing towards their performance. It is necessary to insert the other EPHF into the curriculum, contributing to the excellent performance of public health by the professionals educated in this institution.

KEY WORDS

Curriculum.
Public health.
Education, nursing.
Schools, Nursing

RESUMEN

El referencial de las Funciones Esenciales de Salud Pública (FESP) de la Organización Panamericana de la Salud fue desarrollado para mejorar el desempeño de la salud pública, el cual depende de la formación de los profesionales de la salud. Se realizó un estudio de caso con el objetivo de identificar la inserción de las FESP en el Currículo del Curso de Graduación en Enfermería de la Universidad Federal do Rio Grande do Sul. Fueron definidos descriptores a partir de las definiciones de las once FESP, procediéndose a la búsqueda en los Planes de Estudio del Currículo. Se verificó la inserción de diez FESP, resultando la de mayor grado de ocurrencia la que alude al desarrollo de recursos humanos y capacitación en salud pública. El Currículo en estudio contempla algunas FESP de forma más intensa, lo que debe propiciar la formación de enfermeras capaces de contribuir en su desempeño. Es necesario insertar a las demás, para contribuir a la buena interpretación de la salud pública por parte de los profesionales formados en la institución.

DESCRIPTORIOS

Curriculum.
Salud pública.
Educación en enfermería.
Escuelas de Enfermería.

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INTRODUCTION

The concept of Essential Public Health Functions and of their related essential services was developed in North American and European countries in 1988 and was incorporated by the World Health Organization (WHO) in 1995. The WHO's objective was to develop the concept of Public Health in order to specify its range of action in the face of changes of a demographic nature and changes in health profiles such as structural changes in health systems and in the concept of public health itself⁽¹⁾.

This movement originated as a response to those rapid changes that countries at all levels of development are experiencing in their social and health environments and services. To cope with this situation, a key question was raised whether it is possible to establish a set of public health functions, considered essential, since these functions would support the public health system by effectively answering emerging and fundamental social demands through a variety of public health services⁽²⁾.

The Essential Public Health Functions (EPHF) are linked to institutional and social settings and demand great responsibility in their performance, which not only stress the critical role developed by its services and programs, but also the importance of competencies, resources, relations, system and values⁽³⁾.

When the EPHF are considered from society's perspective, public health is put in the foreground for the analysis of sector transformation. EPHF require the exploration of their implications for the development of health systems and services and the corresponding identification, at an operative level, of the essential public health services, as well as the development of human resources in health.

The eleven EPHF were defined by the Pan American Health Organization (PAHO) through the Public Health Initiative in the Americas⁽⁴⁾. The participation of academia and public health practice played an essential role in the development of the functions and the establishment of a new social consensus as well as their implications in interventions, education and research. The ideas that permeate the EPHF that guide actions in public health should penetrate the field of human resources education⁽³⁾.

Reflecting about the development of health professionals is crucial in answering the concerns regarding the quality of services provided by the health sector. The development of pedagogical and political projects for health education also requires the discussion of the professionals' competencies to perform EPHF⁽⁵⁾.

To ensure that the performance of former students meets the demands of public health in distinct socioeco-

omic contexts, some changes are mandatory, such as revising teaching strategies and improving academic curricula⁽⁶⁾. From this perspective, the curricular structures have an essential role in the professional performance of health services in Brazil.

Starting in the 1980s with the Brazilian Health Sector Reform, the concept of health was enlarged from a political perspective. As a result, access to healthcare is a citizens' right and a duty of the State, leading to the restructuring of health services through the establishment of the Single Health System (SUS)⁽⁷⁾.

The Brazilian Single Health Care System has been active since the beginning of the 1990s⁽⁸⁾ and gives priority to aspects related to health practice and services, which should guide the education of health teams. These aspects include the promotion, protection and restoration of health; disease prevention; identification of health determinant factors; the formulation of public health policies; and epidemiological and sanitary surveillance actions. The SUS is also in charge of the management of the health education of human resources.

Human resources in the health field are essential for the implementation of projects, actions and health services available to the population.

Human resources in the health field are essential for the implementation of projects, actions and health services available to the population. Brazilian nurses are members of the health team and are part of the services administrated by the SUS, developing their activities based on the support and nursing education provided by universities. Consequently, the nursing field needs to acquire knowledge produced on the subject in the Americas⁽⁹⁾.

OBJECTIVE

This study analyzed the inclusion of Essential Public Health Functions in the Curriculum of the Undergraduate Nursing Program at the Federal University of Rio Grande do Sul (UFRGS), School of Nursing and contributes to the educational process of health professionals and their practice in health services.

METHOD

This is a descriptive study with a qualitative approach case study⁽¹⁰⁾. The nursing school at the Federal University of Rio Grande do Sul (UFRGS) was selected because it was one of the first undergraduate nursing programs founded in the Brazilian South and also because it is linked to a public university.

The university is located in Porto Alegre, RS, Brazil, whose undergraduate nursing program was officially established in 1950 (Law nº 1254/50) and was included in the Biological Sciences field after the University Reform in 1970.

The School focuses on the education of professionals capable of caring for individuals, families and communities in health/disease situations according to the stages of human development, taking into account a socio-cultural perspective, the population's priorities and the region's epidemiological profile. The most recent restructuring of the curriculum was approved in 1995 by the Undergraduate Nursing Committee (Resolution nº 01/95), according to the guidelines established by the Ministry of Education (MEC 1721/94)⁽¹¹⁾.

Syllabi of 39 mandatory courses distributed over nine semesters were used to identify EPHF in the curriculum. A set of keywords that was derived from the definitions of the Essential Health Public Functions was selected. These keywords were searched in the curriculum's syllabi.

An instrument was developed and applied to each course in the curriculum. Each course was given a code: the first part of the code was a Roman numeral, which identified the semester, and the second part was a letter, e.g. V-B refers to a course in the fifth semester.

The search for the keywords took into account the context in which they were included, i.e. they shared similar meanings. There were times in which keywords with the exact established spelling were not found, but there were terms whose meanings were very close to those of the keywords.

The syllabi used in the study were obtained from the school's Pedagogical Political Project provided by the UFRGS Undergraduate Nursing Committee⁽¹¹⁾.

Pattern matching techniques were used for the data analysis⁽¹⁰⁾, and the EPHF definitions were the established patterns.

At least one or more keywords of the same Function were found in a particular course during the data analysis. In order to express those occurrences, we opted to use the term *reference*, that is, the course contained elements that referred to one of the Functions. Another selected term is *occurrence*, which refers to how many times a particular keyword was found in each syllabus.

Two main documents were used in the discussion of results. The first presents the results of the EPHF performance evaluation in the sub-regions of the Americas developed by PAHO during 2001 and 2002, especially the results from Southern Cone countries (Argentina, Brazil, Chile, Paraguay and Uruguay) and Mexico (which was included because of its geopolitical similarity with Southern Cone countries)⁽⁴⁾. The second presents the contribution of nurses' competencies in the primary health system related to the EPHF^(12, 13) in RS, Brazil.

Data were organized according to the found keywords, the number of courses in which they were included and in which semesters they were administered. The project was approved by the Ethics Research Committee at the UFRGS (protocol 2007837).

RESULTS AND DISCUSSION

No keywords were found in 11 of the 39 searched courses: five were courses from the 1st semester, two from the 2nd, two from the 3rd, one from the 4th and one from the 5th. All the remaining 28 courses, in which keywords were found, were administered in the 6th semester or later semesters, as shown in the Chart (Appendix).

One hundred references to the EPHF were found in the 39 courses. Among the 74 keywords defined for data collection, 52 were found. The results showed a higher occurrence of keywords and references for EPHFs 1, 3, 5 and 8.

The keywords established for each EPHF and respective occurrences are presented in the Table 1.

Table 1 - Distribution of recurrences of keywords set for each EPHF in Curriculum - Porto Alegre - 2008

EPHF	Defined key words	Occurrences
1	Health status	5
	Trends in health	1
	Determining health factors	2
	Inequalities in risks and harm to health/inequalities in the access to health services	2
	Health needs	2
	Evaluation of risks to health	-
	Vital statistics	3
	Groups of risk	-
	Services evaluation	3
	Identification of resources	6
	Interpreting and communicating information	5
2	Epidemiological surveillance in health	2
	Epidemiological investigation	3
	Outbreaks	-
	Models of disease presentation	5
	Control of threats to health	1
	Connection with international networks	-
3	Local Surveillance	-
	Life style changes	1
	Public policies	10
	Change in the environment	-
	Culture of health	11
	Intersectoral partnerships	3
	Evaluation of the impact of public policies	1
Health education	8	
4	Models of health promotion	5
	Citizen empowerment	3
	Healthy behavior	1
	Healthy environment	-
	Access to health services	-
Community participation	5	

Continued...

...Continuation

EPHF	Defined key words	Occurrences
5	Equity in health	-
	Political decisions in public health	1
	Management in public health	2
	Strategic planning	2
	Decision-making skills	5
	Leadership	2
	Communication	8
	Organizational development	-
	Resource management	1
	International cooperation	-
6	Public health protection	1
	Regulation in public health	-
	Surveillance in public health	-
	Development of laws and regulations	3
	Citizens' protection	1
7	Equitable access to health services	2
	Vulnerable groups	-
	Public providers	1
	Private providers	1
	Collaboration between governmental and non-governmental agencies	-
8	Professional profile in public health	3
	Professional training	1
	Professional evaluation	4
	Identification of the needs of the public health services	4
	Priority problems in public health	1
	Evaluation of public health actions	1
	Quality program	-
	Programs of professional improvement	2
	Permanent education in human resources management	2
	Interdisciplinary work	9
Professional ethics, solidarity, equity and respect for human dignity	16	
9	Evaluation of quality in health	-
	Rights of health services users	4
	Health technology	3
	Scientific methodology for health interventions	4
	Satisfaction of health services users	1
10	Research in health	9
	Development of innovating solutions	-
	Alliances with centers of research in and out of the health field	1
11	Impact of disasters on public health	-
	Integral focus of harm in emergencies/disasters	-
	Reduction of the impact of emergencies/disasters	-
	Intersectorial/international cooperation in the solution of health problems in emergencies/disasters	-
Total	74	183

There was an occurrence of 183 keywords, resulting in 29 from EPHF 1, 39 from EPHF 3, 21 from EPHF 5 and 43 from EPHF 8.

EPHF 1, Monitoring, evaluation and analysis of health status, generated 11 keywords and occurred in 14 courses of the curriculum, 8 of them (57%) offered by the School of Nursing^(a). There was a significant occurrence of the following keywords: *identification of resources, interpreting and communicating information and health status*.

Of the competencies constructed in a study previously mentioned⁽¹²⁾, five were related to this Function, and two of them share a close meaning with the keywords: *uses communication tools and establishes relationships and understands the health status of populations, problems and necessities, and social determinants*. The inclusion of this Function in the curriculum mainly occurs due to an institutional and faculty membership concern to educate nursing professionals that have knowledge of the health status of the country and their field or work, who are capable of identifying resources needed for the population's health and can efficiently understand and share relevant information.

The evaluation of this EPHF indicated that it strongly contributes to the research field⁽⁴⁾, though the health status does not have an optimal, regular and updated revision. The sub region had an adequate supply of expert personnel and resources to perform monitoring, but technological support was not widely used at a local level.

EPHF 3, Health promotion, generated eight keywords and was found in 18 courses; 11 of these courses (61%) were offered by the School of Nursing. There were significant occurrences of the following EPHF 3 derived keywords: *public policies, health education and culture of health*.

Eight competencies⁽¹²⁾ were related to the third Function, especially these two: *respects and interacts with different cultures and applies health education knowledge in nursing interventions*. The majority of the countries from the sub region⁽⁴⁾ accepted the recommendations of international congresses regarding health promotion and put them into practice. Additionally, the National Sanitary Authorities of all these countries supported the activities concerning health promotion and disseminated them via the available communication means. Almost 60% of the studied regions (Mexico, the South Cone and some other countries) encouraged their educational centers to include these aspects in their academic curricula.

The occurrence of keywords related to EPHF 3 leads to the conclusion that education is oriented towards health promotion, in which professionals are supposed to acknowledge cultural diversity among different lifestyles, and work in the context of the established public health policies to meet the needs of the population.

EPHF 5, Development of policies and institutional capacity for public health planning and management, gener-

(a) Note: 21 of 39 analyzed undergraduate courses are offered by other units of the university.

ated 10 keywords and was found in 12 courses, 8 of which (66.6%) were offered by the School of Nursing. There was significant occurrence of the following keywords: *communication* and *decision-making skills*.

The National Sanitary Authorities of most of the studied countries were in charge of the processes that defined sanitary goals and objectives, which were based on the health priorities of each country. The major weaknesses were related to the assistance provided at sub-national levels (intermediate and local) for the development of policies, planning and public health management⁽⁴⁾.

The analysis in the region of the Americas revealed two significant weaknesses of EPHF 5: the efforts directed at decision-making and a lack of communication skills⁽⁴⁾. Both indicators are related to the keywords with the highest frequency of occurrence in this Function.

Seven competencies⁽¹²⁾ were related to this Function and the following is highlighted: *demonstrates understanding of the National Health System and policies*. Other keywords found might be related to this competency, such as *political decisions in public health* and *management in public health*.

EPHF 8, Human Resources Development and Training in Public Health, generated 11 keywords and was found in 20 courses of the curriculum; 11 of these (61%) were offered by the School of Nursing. There was a significant occurrence of the following keywords: *Professional ethics, solidarity, equity, and respect for human dignity* (which presented the highest number of occurrences), *interdisciplinary work, professional evaluation* and *identification of the needs in public health services*.

Eight competencies⁽¹²⁾ were related to this Function and two are presented: *works according to ethical values and principles* and *integrates knowledge into practice*.

The evaluation conducted by PAHO revealed that this Function was one that presented the worst performance. The Sanitary Authority in the sub-region had capacity to define the need of personnel in the public health field with descriptions of their profile and identification of required competencies⁽¹²⁾, however, only two out of the six countries in the sub-region had systems to evaluate the performance of the public health workforce. The educational institutions of these countries developed basic public health teaching plans, which were used to train personnel.

The evaluation of the Americas region stressed that only 19% of the countries had educational plans that included the ethical dimension as a pertinent aspect⁽⁴⁾.

EPHF 8 was the Function most referred to in this study, which denotes the contribution of the curriculum to the improvement of human resources directed to care delivery, oriented by ethics and respect for the human being and responsibility to train professionals able to perform interdisciplinary work.

EPHF 2, Surveillance, research, and control of risks and threat to Public Health, presented 7% of the references. The keyword *Models of disease presentation* presented the highest number of occurrences.

This Function presented the best performance in the assessment carried out by PAHO in the sub-region. Only the indicator *capacity and expertise in epidemiology*, which was one of the five indicators used to measure this Function, reached moderate levels. This positive performance was due to the capability of the surveillance systems to identify immediate threats and analyze diseases considered priorities. The moderate level obtained by the *capacity and expertise in epidemiology* indicator was due to the poor use of geographic information systems and a lack of professional training in mental and occupational health⁽⁴⁾.

The competencies *uses epidemiological surveillance strategies* and *implements protective and preventive health measures* were contribute to the development of EPHF 2⁽¹²⁾. The participation of the nurses of this study in epidemiological surveillance was verified through the notification actions in the health units and in health prevention/protection actions in the immunization programs.

EPHF 4, Social participation in health, presented 5% of the references, and *community participation* was the keyword with the highest number of occurrences. This Function presented high-intermediate performance in the sub-region where the countries encouraged the participation of citizens and were aware of the importance of this Function as a link to define and achieve public health goals. There were, however, significant weaknesses in the development of strategies to enlighten the population about their health rights⁽⁴⁾.

Since the curriculum aims to train professionals to work in the Brazilian Single Health System, which, given its structure, considers the participation, not only of users, but also of health professionals who exercise social control on deliberative bodies such as Health Councils and Conferences⁽¹⁴⁾, this content should be more emphasized.

EPHF 6, Strengthening of public health regulation and enforcement capacity, presented 4% of references. The keyword *development of laws and regulations in health* presented the highest number of occurrences. A low-intermediate performance was observed for this Function in the sub-region in the PAHO evaluation. Most of the countries had appropriate resources and assistance to develop the policies required to perform this Function, although the surveillance process was not properly monitored and there were no counter-measures to prevent corruption in the public health system⁽⁴⁾. The contribution of the identified competencies was less significant for this Function⁽¹²⁾.

Contrary to the reality PAHO has observed, research⁽¹⁵⁾ carried out in Canoas, RS, Brazil, which measured the performance of EPHF 6 in the surveillance context, evidenced this Function was effective.

EPHF 7, Evaluation and promotion of equitable access to necessary health services, presented 2% of references, whose keyword with the highest number of occurrences was *equitable access to health services*. A high-intermediate performance was observed for this Function in the sub-region, that is, there were professionals capable of orienting the population concerning the utilization of health services, despite weaknesses found in the methods used to inform the citizens. No all countries in the sub-region used methodologies to detect inequalities and that is why equitable access was reduced⁽⁴⁾.

This Function presented the lowest number of references among those presented in this study, as opposed to the study of competencies⁽¹²⁾, which in a total of 14, presented a significant contribution. This might be an indication that for the nurses participating in this study, there is a need to reinforce education to perform this Function.

Among the basic competencies developed by professors of a Master's program in Cuba according to the theoretical and practical requirements of each of the EPHF, more than 80% were represented by the EPHF 7⁽⁶⁾.

EPHF 9, Quality assurance in personal and population-based health services, presented 9% of references. The keywords *User's rights* and *Scientific methodology for health interventions* presented the highest number of occurrences.

This Function presented the worst performance of the sub-region: the performance of countries was better only in one out of four indicators, which refers to the definitions of standards and evaluation of improvement of quality of population-based and personal health services. In only one of the countries did the National Sanitary Authority succeed in promoting the evaluation of users' satisfaction regarding health services, but the results of the evaluation were not disseminated to the community nor to the service providers⁽⁴⁾. The keywords of this study could not be related to the competencies⁽¹²⁾, however, 13 competencies were related to this Function, which evidences its importance to this study.

EPHF 10, Research in public health, presented 9% of references, and the keyword with the most occurrences was *research in health*. PAHO verified a high-intermediate performance for this Function in the sub-region, where all countries developed public health research programs. However, in general, the content of these programs was limited to the identification of potential funding sources and cooperating organizations, and only the government of one of these countries effectively supported the research programs⁽⁴⁾. The nurses reported that research should be part of nurses' professional life because studies concerning the work of nurses in Brazilian primary care, in general, did not refer to research⁽¹²⁾.

The keywords *Reduction of the impact of emergencies and disasters on health*, regarding **EPHF 11** and which were not found in this study, presented a high-intermediate per-

formance in the PAHO evaluation. It is one of the Functions that are part of the tradition of public health development. The evaluation revealed that all countries in the sub-region had institutional national plans to reduce the impact of emergencies and disasters on health and the national sanitary authority had networks of communication and transport, personnel were properly qualified even though this content was not integrated into professional education. The aspects that presented the smallest advancements were those related to mental health, policies to donate medication and inputs of and the construction and maintenance of sanitary infra-structure⁽⁴⁾. The contribution of the identified competencies was less significant for this Function⁽¹²⁾.

FINAL CONSIDERATIONS

This study verified the inclusion of the Essential Public Health Functions in the curriculum of the Undergraduate Nursing Program at the Federal University of Rio Grande do Sul in the curriculum's required courses.

The obtained results reveal that 10 of the 11 Functions are covered in the undergraduate program. Four of them are the most prevalent, namely: EPHF 1 – monitoring, evaluation, and analysis of health status, EPHF 3 – Health promotion, EPHF 5 – development of policies and institutional capacity for public health planning and management and EPHF 8 – Human resources development and training in public health.

The occurrence of found keywords leads to the conclusion that nurses who are educated at the UFRGS are trained to be ethical and respect the human being, to educate about health (while aware of cultural diversity), to work as health managers, to identify the need of services, to interpret and communicate information, to have decision-making skills, and work with interdisciplinary teams, contributing to the performance of EPHFs.

In addition, several competencies and specific and/or general skills established in the National Curricula Directives of Undergraduate Nursing Programs (such as decision-making, communication and management), as well as goals, principles and directives of the Single Health System.

Of the seven courses administered in the first semester, only two contained the established keywords, which indicates that it may be necessary to establish a more cohesive collaboration between the Undergraduate Nursing Committee and the faculty members of these courses in order to include the EPHFs. The rationale is that these are introductory courses in the program and should contextualize the health care situation in the country where the professionals will work with a view to achieve the ultimate goal of public health, to improve the health of populations.

Some of the EPHFs were seldom referred to, such as those related to Evaluation and promotion of equitable access to necessary health services (EPHF 7), Strengthen-

ing of public health regulation and enforcement capacity (EPHF 6) and Social participation in health (EPHF 4). EPHF 11, Reduction of the impact of emergencies and disasters on health, did not present references. The review of this content in the curriculum is recommended to facilitate the education of nurses capable to perform all Essential Public Health Functions.

The results presented here represent a brief account of the inclusion of the EPHF in the curriculum because the field of study

included only the documents that guide the curriculum (the courses' syllabus). An analysis of the teaching-learning process and its dimensions was not performed.

Because there is no similar study in Brazil, further studies focusing on nursing curricula and others in the health field are recommended, with a view to contribute to the full inclusion of the EPHF in undergraduate programs and adjusting the contents of those programs to the produce professionals that are capable of performing the Essential Public Health Functions.

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APPENDIX

Chart 1 - Distribution of references related to the EPHFs in the courses - Porto Alegre, RS, Brazil - 2008

EPHF	Courses	References
1 - Monitoring, evaluation, and analysis of health status	I-B, I-G, II-C, II-H, III-C, III-F, V-C, VI-B, VIII-A VII-A, VII-B, VIII-B, VIII-C, IX-A	14
2 - Surveillance, research, and control of the risks and threats to public health	II-A, II-F, III-C, III-F, V-C, VII-B, VII-C	7
3 - Health promotion	I-G, II-A, II-B, II-F, II-G, II-I, III-A, III-C, III-F, IV-B, V-B, V-C, VI-A, VI-B, VII-B, VII-C, VIII-A, VIII-B	18
4 - Social participation in health	II-G, III-F, V-C, VIII-A, VIII-B	5
5 - Development of policies and institutional capacity for public health planning and management	I-G, II-A, II-C, II-F, II-G, III-C, III-F, IV-A, V-C, VII-B, VIII-B, VIII-D	12
6 - Strengthening of public health regulation and enforcement capacity	I-G, III-C, VIII-A, VIII-B	4
7 - Evaluation and promotion of equitable access to necessary health services	VIII-A, VIII-B	2
8 - Human resources development and training in public health	I-B, I-G, II-A, II-B, II-H, II-I, III-C, III-F, IV-A, V-B, V-C, VI-A, VI-B, VII-B, VII-C, VIII-A, VIII-B, VIII-C, IX-A, IX-B	20
9 - Quality assurance in personal and population-based health services	I-G, II-C, III-C, III-D, V-B, VI-A, VIII-A, VIII-B, VIII-C	9
10 - Research in public health	II-A, II-G, III-D, V-B, VI-B, VII-C, VIII-A, VIII-C, IX-B	9
11 - Reduction of the impact of emergencies and disasters on health	-	-