

Current Status of Cardiology Residencies: Results of the 5th National Residents' Survey (ENARE V)

Estado actual de las residencias de cardiología: resultados de la 5ª Encuesta Nacional de Residentes (ENARE V)

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ABSTRACT

Background: Due to the great disparity between medical residencies, the Argentine Council of Cardiology Residents has developed surveys to know the reality of its members.

Objective: The aim of this survey was to present the results of the fifth survey on this topic.

Methods: A closed and pre-established survey was carried out during the 35th Inter-Residencies of Cardiology Conference.

Results: A total of 390 participants were included in the study. Median age was 29 years, 54% were male, 54.2% belonged to private institutions and 34.9% lived in the Autonomous City of Buenos Aires.

Thirty-two per cent of first-year residents performed more than 8 shifts per month, 33.2% worked more than 80 hours/week, and 33.6% reported sleeping less than 35 hours/week. Only 48.5% said they were supervised on decision making of hospitalized patients. Likewise, 65% of participants did not have at least one of the basic rotations for a training program in cardiology.

In 5.8% of cases they had lower incomes than the national minimum wage, while 14.9% did not receive meals during their workday, 41.5% had no health coverage and 33.3% had no labor risk insurance.

In 90.8% of cases, residents said that if they could they would choose their specialty again, but 23.1% said they would not choose their training center again.

Conclusions: Although the residency system is the best method for training specialists, it is necessary to implement urgent changes in order to improve the conditions in which they are developed, both academically and from the working point of view.

Keywords: Internship and residency - Quality of life - Medical education - Cardiology

RESUMEN

Introducción: Debido a que existe gran disparidad entre las residencias médicas, el Consejo Argentino de Residentes de Cardiología ha desarrollado encuestas para conocer la realidad de sus miembros.

Objetivos: Presentar los resultados de la quinta encuesta sobre esta temática.

Material y métodos: Se realizó una encuesta cerrada y prefijada durante las 35ª Jornadas Interresidencias de Cardiología.

Resultados: Se incluyeron 390 participantes, de los cuales 54% eran varones, 54,2% pertenecían a instituciones privadas y 34,9% residían en la Ciudad Autónoma de Buenos Aires. La mediana de edad fue de 29 años.

El 32,1% de los residentes de primer año realizaba más de 8 guardias al mes, 33,2% del total trabajaba más de 80 horas/semana, y 33,6% manifestó dormir menos de 35 horas/semana. Solo el 48,5% manifestó que siempre se encontraba supervisado para tomar decisiones sobre pacientes internados. Asimismo, 65% de los participantes no tenía al menos una de las rotaciones básicas para un programa de formación en cardiología.

Un 5,8% tenía ingresos menores al salario vital y móvil, mientras que 14,9% no recibía alimentación durante su jornada laboral, 41,5% no tenía cobertura de salud y 33,3% no tenía aseguradora de riesgo de trabajo.

El 90,8% de los residentes expresó que si pudiera volvería a elegir su especialidad, pero 23,1% manifestó que no elegiría nuevamente su centro formador.

Conclusiones: Si bien el sistema de residencias es el mejor método para la formación de especialistas, es necesario implementar modificaciones urgentes a fin de mejorar las condiciones en que se desarrollan, tanto académicamente como desde el punto de vista laboral.

Palabras clave: Internado y residencia - Calidad de vida - Educación médica - Cardiología

INTRODUCTION

“*Learning without thinking is wasting energy*”. Attributed to Confucius (Chinese philosopher, 551-479 B.C.).

The medical residency system was developed and initially promoted by William Stewart Halsted and by the famous William Osler at “Johns Hopkins” Hospital in Baltimore, United States, at the end of the 19th century. (1, 2) From its inception, its members were required to spend countless hours inside the institution to which they belonged, and it was not surprising that these doctors “resided” in them, which ended coining the term “residents”. (3)

In Argentina, the residency system began in the mid-twenties, more precisely in 1944, when Dr. Tiburcio Padilla created the Chair of Semiology at the Universidad de Buenos Aires Hospital de Clínicas “José de San Martín”. (4, 5) Since then, this system has spread to the whole country; however, in spite of its preponderant role in the training of specialists, the medical residency system is not the only way to access the possibility of becoming a specialist in the health field. (4, 6)

On the other hand, almost from the beginning there have been disparities in the activities and training provided by the different residencies. This led the National Ministry of Health to promote in 2006 a disposition to regulate the accreditation of medical residencies. (7)

Accordingly, in March 2015 and in line with this disposition, the “Reference Framework for Training in Medical Residencies, Specialty Cardiology” document prepared by authorities from various fields, including members from various ministries, the Argentine Society of Cardiology (SAC), the Argentine Federation of Cardiology (FAC) and several universities of the country was issued. (8)

Since 1991, the Argentine Council of Cardiology Residents (CONAREC) has carried out surveys to know the reality of its members, and its fourth edition was completed in 2010. (9-11) Therefore, we set out to investigate again the reality of the personal, academic and working conditions of Cardiology residents in our country. (8)

METHODS

A closed and pre-established, voluntary and anonymous survey was carried out (Appendix I: Survey) during the 35th Inter-Residencies of Cardiology Conference held in the city of Mendoza from November 26 to 28, 2015. The survey was delivered to attendees at the time of registration to the meeting, to be completed and returned no later than the end of the last academic activity on day 27.

Residents, fellows, scholars, heads of residents and instructors belonging to every residency in the country were included.

Former residents who attended the Conference as staff or fellows, or any other figure not included in the inclusion criteria were excluded from the study, regardless of whether they continued in the training period.

Analyzed variables: Four main topic axes were addressed for the analysis:

- Demographic data
- Academic and care training
- Working conditions
- Personal remarks

Statistical analysis

Data frequency and distribution were described with mean and standard deviation or median and interquartile range (IQR), according to their distribution. Categorical variables were expressed as percentages and analyzed by the chi-square test or Fisher’s exact test, according to the relative frequency of expected values. Numerical variables were analyzed with Student’s t test or the Wilcoxon rank-sum test, according to their distribution. In all cases the statistical significance was considered assuming an alpha error of 5%. STATA 13.0 software package was used for the analyses.

Ethical considerations

The study was evaluated and approved by the institutional Ethics Committee. All patients signed an informed consent before entering the study.

RESULTS

Data were obtained from 390 cardiology residents, representing 96.8% of the Conference participants. Median age was 29 years (IQR 27-31.5), and 54% were male. Table 1 summarizes the remaining characteristics of respondents.

In 34.9% of cases, Conference attendees were trained in the Autonomous City of Buenos Aires and 15.8% in the province of Santa Fe. (Table 2)

Table 1. Baseline characteristics of residents participating in the survey

| Characteristics | n | (%) |
|----------------------------------|-----|----------|
| Male gender | 210 | 53.9% |
| Female gender* | 176 | 28.8±2.3 |
| Male age* | 210 | 29.8±3.0 |
| Marital status: single | 304 | 78% |
| Fellows/scholars | 39 | 10.2% |
| Year of residency [‡] : | | |
| - 1 [€] | 28 | 7.2% |
| - 2 [€] | 94 | 24.2% |
| - 3 [€] | 120 | 30.9% |
| - 4 [€] | 103 | 26.6% |
| Chief of residents | 26 | 6.7% |
| Resident instructor | 17 | 4.4% |
| With children | 38 | 9.7% |
| Dwelling : | | |
| - lives with parents | 62 | 16% |
| - tenant | 251 | 64.4% |
| - owner | 59 | 15.2% |

* 4 participants did not specify their gender.

‡ 2 participants did not specify their residence year.

€ considered themselves residents, in-training residents and fellows jointly

Academic and care training

Service organization and complexity level

In 54.2% of cases the respondents were training in private centers. Among residencies in public hospitals, 46.9% were provincial centers, 38.4% municipal, and the remaining 14.7%, national hospitals. Most of them were high complexity centers, 86% had a hemodynamics laboratory and 88% had cardiovascular surgery. (Table 2) Only 3.8% of the centers did not have any of these services. In addition, 32% had no computed tomography or cardiac magnetic resonance imaging and up to 10.4% no stress echocardiography or nuclear medicine. Regarding the hierarchical structure of the residencies, 91.8% of the respondents reported having a chief of residents in their center and 62.6% had a resident instructor; but 3.5% had no formative figures.

Academic activity

A total of 93.9% of residents reported that they attended ward rounds with staff physicians in their center, while 78.9% said they attended bibliographical meetings and only 23.9% error discussion meetings. Around 3.1% of participants said they had no daily academic activity in their residency.

On the other hand, 8.6% of the residents said they had no rotation through internal medicine and 9.6% said they had rotated for less than 6 months, while only 58% completed one year of rotation for the specialty.

Care training activity

Approximately 32.1% of first year residents performed more than 8 shifts per month and, in some cases, completed 11 mandatory shifts for their training program. Furthermore, we observed that the median number

of shifts decreased over the years: 8, 7.5, 6 and 4 for 1st, 2nd, 3rd and 4th year residents, respectively ($p < 0.001$).

During shifts, 36% of residents reported not having the possibility of consulting a staff physician in an active or face-to-face manner, with 35.9% of 3rd and 4th year residents, 35.1% of chiefs of residents or instructors, and even 2.3% of 2nd year residents bearing the responsibility to make medical decisions in acute cases during the residency.

A total of 21.7% of residents did not rotate in an outpatient clinic, seeing ambulatory patients, at any time during their residency. Among those who rotated, 13.6% did so with a staff physician, 45.4% were alone but had the possibility to consult before decision-making and 19.3% had no possibility of consultation or supervision of any kind in their center.

Regarding health care decisions for inpatients, only 48.5% of residents reported being always supervised by a physician, while 9.6% expressed that supervision was "infrequent", and nearly 1.7% said they were never supervised.

Almost 65% of the residents surveyed in this study did not comply with at least one of the rotations established as basic for a training program in cardiology, according to the Framework Agreement, mainly at the expense of pediatric cardiology (47.3%) and imaging techniques such as nuclear medicine (16.5%). Moreover, 57.4% of participants reported not having observed cardiac MRI studies during their training, and 36.2% expressed stress echocardiography was not available during their rotations.

Research

A total of 67.9% of centers published in journals, most of them in the CONAREC Journal (77.7%), although 46% also reported publishing in other journals. In addition, 85.4% of the evaluated centers participated in presentations at conferences or congresses, while 68.5% of the training centers carried out research projects, mostly in their own center (92.5%) and, to a lesser extent, participated in multi-center projects (59.9%), or in projects generated by the pharmaceutical industry (40.5%).

Residency program

In 79.1% of cases, residents said that their center had a residency program, while 6.8% admitted their ignorance on the subject. However, only 58.4% of participants reported knowing about the program; in addition, 49.7% said that the program was only partially fulfilled, while 10.9% said it was not accomplished. Regarding academic training, 36.5% of residents said they were not attending a postgraduate university course or career in parallel with the residency, and 4.9% were attending a non-university course. Among those who attended a course, 18.1% reported that their center paid for their tuition fees and 5.4% said that it was partially paid by the institution.

Table 2. Distribution of survey participants, according to the province in which they live

| Province | Participants (%) |
|---------------------|------------------|
| Catamarca | 0.27 |
| Santa Cruz | 0.27 |
| Chaco | 0.27 |
| Misiones | 0.27 |
| Santiago del Estero | 0.27 |
| Jujuy | 0.54 |
| La Rioja | 0.54 |
| Río Negro | 0.82 |
| Salta | 1.09 |
| Formosa | 1.63 |
| Entre Ríos | 1.91 |
| Corrientes | 2.45 |
| San Juan | 2.72 |
| Tucumán | 4.36 |
| Córdoba | 8.45 |
| Mendoza | 9.55 |
| Buenos Aires | 13.9 |
| Santa Fe | 15.81 |
| CABA | 34.88 |

| Variable | n | (%) | Ext. R |
|---------------------------------------|----------|-------|--------|
| N° of residents per year (IQR) | 3.1±1.7 | --- | --- |
| N° of Coronary Care Unit beds (IQR) | 11.3±6.9 | --- | --- |
| Hospitalization in general ward | 364 | 92.6% | 0.26% |
| Hemodynamics | 333 | 85.4% | 7% |
| Hemodynamics 24/7* | 278 | 71.3% | --- |
| Cardiovascular surgery | 342 | 87.7% | 3.4% |
| Non-invasive electrophysiology | 370 | 94.9% | 1.3% |
| Invasive electrophysiology | 300 | 76.9% | 5.7% |
| Echocardiography | 387 | 99.2% | --- |
| Echocardiography available 24 h a day | 257 | 65.9% | --- |
| Transesophageal echocardiography | 319 | 81.8% | 2.3% |
| Stress echocardiography | 231 | 59.2% | 4.1% |
| Ergometry | 384 | 98.5% | --- |
| Nuclear medicine | 274 | 70.3% | 12.7% |
| Cardiac computed tomography | 212 | 54.4% | 8% |
| Cardiac magnetic resonance imaging | 119 | 30.5% | 11.9% |
| Pediatric cardiology | 132 | 33.9% | 18.6% |
| Heart transplantation | 92 | 23.6% | 3.1% |

N: Number of residents training in the different areas. Ext. R: External rotation (understood as the one planned within the residency program).

*Hemodynamics service available to perform primary angioplasty 24 hours a day, 7 days a week.

Table 3. Characteristics of the residency center

Working conditions

Among the total number of residents, 91.6% received some remuneration for their work; 57.6% had a scholarship, 22.9% were employed by the center, 10.6% had some other type of contractual relationship, and 8.9% were independent.

With regards to remuneration, 5.8% of the participants reported an income lower than the national minimum wage for the month and year in which the survey was conducted (\$5,558 in November 2015). Moreover, 31.1% received less than \$ 10,000 per month, 14.9% of residents did not receive meals from the institution during workdays, 41.5% had no health coverage and 33.3% no labor risk insurance (Figure 1).

At the same time, 36.6% of the residents said that they worked between 61 and 79 hours per week and 33.2% more than 80 hours; i.e., a total of 69.8% of the participants worked more than 60 hours a week. With regards to weekly rest hours, 53.3% said that they slept between 35 and 45 hours, while 33.6% slept less than 35 hours per week. This means that overall 86.9% of residents slept less than 45 hours per week.

Related with these conditions, 60.5% of participants said that they worked outside the residency, which became more frequent as they progressed in their training. Furthermore, more than a third of first and second year residents worked out of their training system (Figure 2).

Personal remarks of respondents

Concerning academic education and training obtained in the residency, 86.2% of participants said they were satisfied or very satisfied, whereas 44% said they were

not very satisfied or dissatisfied with the working conditions they were offered.

As a result, 90.3% of the residents said that if possible they would choose the career again and 90.8% would choose their specialty again. However, 23.1% of participants reported that if they if they could opt again, they would not choose their training center again.

DISCUSSION

Although CONAREC was officially founded in 1983, the first inter-hospital meeting of Cardiology - which would then give rise to the Council - was carried out in 1980 at Hospital Italiano de Buenos Aires. Even then, not only scientific aspects were discussed in the meeting, but also training issues and residency performance. (5) Thus, the profile of our association would be marked from the beginning, determined to work tirelessly for the improvement of residencies and residents of Argentina.

This fifth edition of the National Survey of Residents (ENARE V) has been ground-breaking in several aspects: regarding dimensions; it has been the second largest residency reality survey carried out so far, with almost 30% more residents surveyed than in the 2009-2010 period. (11) Another noteworthy point is the inclusion of more residents from the provinces: in ENARE IV, 52% of participants were from the Autonomous City of Buenos Aires (CABA) compared with slightly less than 35% in this edition. At the same time, almost 11% of participants were chief residents and instructors, who were not included in the previous edition. We consider this to be a strength, because

Fig. 1. Working conditions of the residents evaluated*
The day-off was considered within the working week (Monday to Friday), and not after a shift; the latter was framed in the figure "reduced post-shift". LRI: Labor risk insurance.

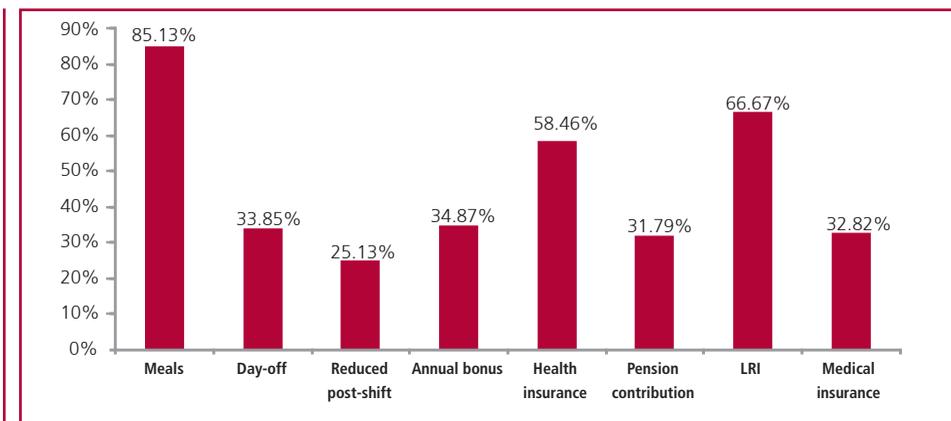
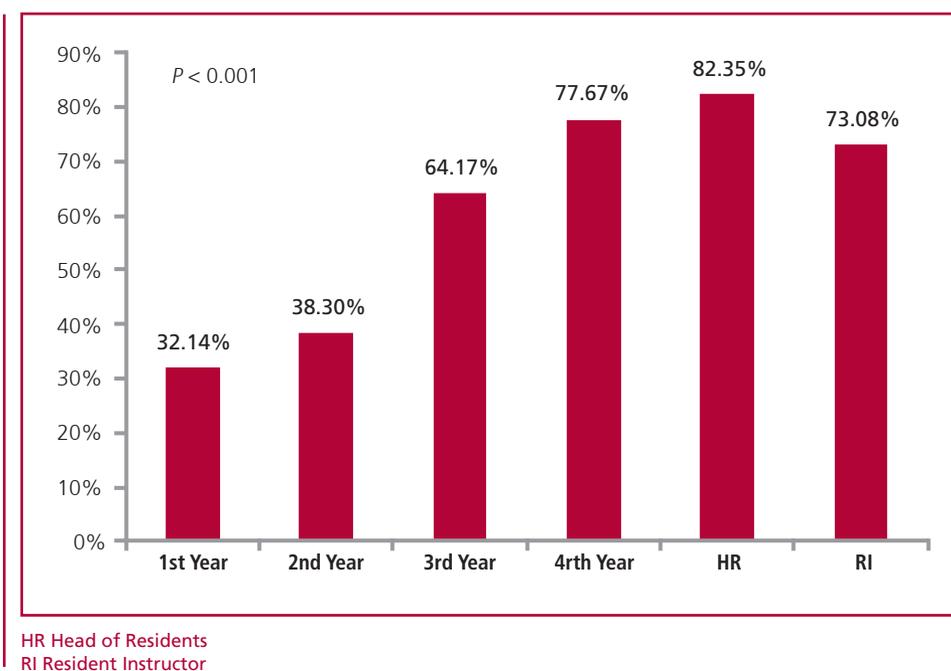


Fig. 2. Completion of work outside the training institution, according to the year of residency



it broadens the opinion between individuals with a higher level of training and possibilities of knowing other training centers. However, as a consequence of the above, our survey included a lower proportion of first and second year residents than in the 2009-2010 survey, but a greater participation of advanced residents.

Another important point is that ENARE V included, almost with equal participation, private and public centers; therefore, the data obtained were more representative. Despite a slight increase in the availability of computed tomography or cardiac magnetic resonance imaging, we did not observe substantial differences between the characteristics of the centers in both surveys. Strikingly, in spite of a greater proportion of public centers, and of the knowledge provided by ENARE IV, in this survey many results have been repeated. Same as 6 years ago, more than 40% of residents are not provided with health coverage during their residency, a similar percentage has

no labor risk insurance and almost 15% do not receive meals during their workday, despite the long working hours and being regulated in the collective bargaining agreement. (12) Likewise, one out of every three residents of cardiology sleeps less than 35 hours a week, which is equivalent to sleeping less than 5 hours a day. Meanwhile, the same proportion of fellows work more than 80 hours per week, both figures identical to those reported in the 2009-2010 period. This absence of improvement in global working conditions could be explained, at least partially, because there have been no explicit and continuous policies to make changes in the matter.

The elaboration of the Framework Agreement (8) constitutes, in our opinion, a clear step forward to improve the functioning of cardiology residencies, both in educational and academic aspects as in the working conditions of the residents. However, as depicted in the results of this survey, it is essential to establish structures and mechanisms that allow regulation and

effective control of residencies in the country. Unless this happens, certain conditions will perpetuate in time despite recognizing their weaknesses, as has been happening for years with previous surveys on the reality of residents.

As limitations of our survey, we must point out that it was carried out in the context of the Inter-Residency Conference of the Council; thus, although it is one of the surveys with the largest number of participants in history, it only represents a subpopulation of the total number of residents, corresponding to only around 30% of the total number of doctors in training of the country. Therefore, since it was not a random sample, and the survey was performed in the context of a non-mandatory activity, it is impossible to extrapolate the findings with full certainty. In addition, it can be assumed that the real conditions of many residents of the country are even worse than those reflected in our work. Something similar happens with fellows and scholars: although in our study they represent a small fraction of the sample, it is of public knowledge that in many centers or regions it is the predominant modality of doctors in training. Although their working/contractual conditions differ from those of residents, these professionals have the same capacity to participate in our Council, and at the end of their training they can obtain the same specialist certificate as their resident counterparts; therefore, they were included in our work.

Another important point is that due to the study design it was not possible to establish the reason why some residents refused to answer the survey. Despite being a low number (3.2% of those attending the Conference) it is a potential limitation.

As we have expressed, observing the average number of Coronary Care Unit beds and the origin of participants, it is possible to assume that there is a certain bias towards the participation of residents from larger centers.

For all these reasons, it can be assumed that, unfortunately, at least in some regions, the situation could be even worse than that reflected in the present study.

CONCLUSIONS

The medical residency program is the best system to train specialists in the different branches of knowledge. However, the general conditions in which cardiology residents of the country work are far from ideal. The main weaknesses include the lack of mandatory rotations, excessively long workdays without proper later rest, and lack of academic training activities.

Furthermore, the lack of resident supervision by attending physicians, both in outpatient clinics, wards or emergency room is worrisome, since they leave the

responsibility of the patient's safety to doctors in training, with the possible legal medical implications of that behavior.

Moreover, a great number of residents receive monthly wages well below those needed to devote solely to their training, forcing them to work outside the residency. In this way the initial idea of exclusive dedication in order to achieve training of excellence in a relatively short period of time has been lost. From the CONAREC we consider the imperative need to advocate complete and homogeneous training throughout the country that guarantees decent working conditions to develop high-quality specialists in cardiology.

Conflicts of interests

None declared.

(See authors' conflicts of interest forms on the web/Supplementary material).

Acknowledgments

We appreciate the disinterested participation of the residents who answered this survey in order to demonstrate once again the reality we have to experience during our training.

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National Survey of Cardiology Residents (ENARE V)

Current reality of 2015 Cardiology Residencies

Personal data

1. Age _____

2. Sex M
 F

3. Year of Residency
 First year Fourth year
 Second year Head of Residents
 Third year Resident Instructor

4. Training modality
 Resident
 Fellow/Scholar

5. Marital status
 Single Partner Widow
 Married Divorced

6. Children No Yes

7. Housing
 Tenant Lives with his family
 Owner Other

Academic and Care Training

Type of Service and Complexity Level

8. Type of institution where you are doing your residency
 Private Provincial
 Municipal National

9. Province: _____

10. Number of residents per year _____

11. Number of fellows per years _____

12. Your service has:

| | Yes | No | External Rotation |
|---|-----|----|-------------------|
| Chief Resident | | | |
| Resident Instructor | | | |
| General Hospitalization | | | |
| Coronary Care Unit | | | |
| Outpatient Clinic | | | |
| Pediatric Cardiology | | | |
| Hemodynamics | | | |
| Emergency Hemodynamics (24 hours) | | | |
| Cardiovascular Surgery | | | |
| Heart Transplantation | | | |
| Cardiovascular Recovery | | | |
| Noninvasive Electrophysiology (Holter, Tilt Test, etc.) | | | |
| Invasive Electrophysiology | | | |

| | | | |
|---|--|--|--|
| Ultrasensitive Troponin | | | |
| Ergometry | | | |
| Echocardiography | | | |
| Transthoracic Echocardiography (24 hours) | | | |
| Transesophageal Echocardiography | | | |
| Stress-echo | | | |
| Gamma Camera | | | |
| Cardiac Magnetic Resonance imaging | | | |
| Multislice Computed Tomography | | | |

13. Number of beds in the Coronary Care Unit

14. Where is patient recovery performed after cardiovascular surgery?
 (In case there is no cardiovascular surgery in your center, skip this question)

- Cardiovascular Recovery Intensive Care Unit
 Coronary Care Unit Other _____

15. Who is in charge of cardiovascular surgery postoperative recovery?
 (In case there is no cardiovascular surgery in your center, skip this question)

- Cardiovascular Recovery Physician Therapist
 Staff Cardiologist Resident
 Other _____

Care Training Activity

16. Possibility of consulting with an intern or staff cardiologist during the duty shift

- Active/On-site
 Passive/Remote
 No consultation availability

17. In case there is no cardiologist on-site on duty shift, who has maximum responsibility in the emergency room?

- Chief Resident/Resident Instructor
 Senior Resident (R3-R4)
 Junior Resident (R1-R2)

18. In average, how many residents share each shift?

19. Among your current care training activities, do you see ambulatory patients in the outpatient clinic?

- Yes, together with a staff physician
 Yes, supervised and with possibility of consultation
 Yes, alone and without supervision
 No

20. Number of monthly consultations: _____

21. Available time for each consultation (minutes): _____

22. Are the resident's care decisions supervised by staff physicians?

- Always Seldom
 Frequently Never

Research

23. The residency in your center participates in:

| | Yes | No |
|--|-----|----|
| Scientific publications in journals of the specialty | | |
| Oral presentations in Conferences and Congresses | | |
| Research projects | | |

24. Publications in journals

| | Yes | No |
|-----------------|-----|----|
| Conarec Journal | | |
| Others | | |

25. Research projects

| | Yes | No |
|----------------------------|-----|----|
| Originating in your center | | |
| Multicenter projects | | |
| Generated by the industry | | |

Residency Program - Academic Activity

26. Selection mechanism for admission used in your residency

| | Yes | No |
|--------------------|-----|----|
| Written Exam | | |
| Oral Exam | | |
| Personal Interview | | |
| Curriculum vitae | | |

27. In your center, residents are evaluated by means of:

| | Yes | No |
|---|-----|----|
| Technical-practical evaluation at the end of each rotation | | |
| Technical-practical evaluation for promotion to the next year | | |
| Technical-practical evaluation at the end of the residency | | |
| Control list of procedures performed | | |
| No form of evaluation | | |

28. In your center, is there a written residency program?

Yes No I do not know

29. Do you know and are informed of this program's content?

Yes Partially No

30. In your opinion, is this program satisfactorily fulfilled?

Yes Partially No

31. Your cardiology residency program:

- Includes less than 6 months of Internal medicine
 Includes at least 6 months of Internal medicine
 Includes 1 year of Internal medicine
 Demands one previous year of Internal medicine
 Does not demand or contemplate a previous year of Internal medicine

32. In your center, how many staff clinical cardiologists have a direct teaching function and responsibility in residents' training?

33. In your center, how many subspecialty cardiologists (electrophysiologists, hemodynamics imaging specialist, etc) have a direct teaching function and responsibility in residents' training?

34. Your service regularly performs

| | Yes | No |
|----------------------------|-----|----|
| Service rounds (CCU, ward) | | |
| Clinical Meetings | | |
| Bibliographical Meetings | | |
| Error Meetings | | |

| | | |
|----------------------|--|--|
| Theoretical classes | | |
| Monographic meetings | | |

35. Do you participate in a course/specialist career simultaneously with your residency?
 Yes (University level) Yes (Not University level) No

36. In case of an affirmative answer, is it financially supported by your institution?
 Yes Partially No

Working Conditions

37. Do you receive any remuneration for your work as a resident Yes No

38. Total monthly remuneration in pesos _____

39. Type of contractual relationship
 Scholarship None
 Labor dependent relationship Other

40. Your center provides:

| | Yes | No |
|---|-----|----|
| Meals during working hours | | |
| Day-off during the workweek | | |
| Reduced working activity after duty shift | | |
| Annual bonus | | |
| Health coverage | | |
| Pension contribution | | |
| Labor Risk Insurance (LRI) | | |
| Medical Insurance | | |

41. In case of days-off during the workweek, indicate how many: _____

42. In case you have reduced working activity after a duty shift, what does it consist of:

- Withdrawal from the center after ending the shift
 Reduced care activity
 Withdrawal from the center after academic activities
 Other _____

43. Total number of working hours per week you do (including duty shift hours)

- ≤ 50 h 61-79 h
 51-60 h ≥ 80 h

44. Average hours of sleep per week

- ≤ 35 h 45-50 h
 35-45 h ≥ 50 h

45. Number of monthly duty shifts you do _____

46. Number of annual weeks of holiday _____

47. Do you have other jobs outside the residency to support yourself?

- Yes
 No

48. Which?

| | Yes | No |
|-----------------|-----|----|
| Duty shifts | | |
| Consulting room | | |
| Monitoring | | |

| | | |
|-------------|--|--|
| Emergencies | | |
| Others | | |

49. Must you pay a monthly due for your Professional Registration?

Yes, supported by my institution

Yes, without my institution's contribution

No

50. According to your knowledge, how many residents who finished their residency in your center remained in the institution in the last 5 years? _____

51. In what capacity?

| | Yes | No |
|---|-----|----|
| Staff | | |
| Subspecialty / Fellow | | |
| Internal Doctor at the Emergency Department | | |
| Consulting room | | |
| Other | | |

52. Among them, how many fulfill their function concerning residents' training? _____

Final remarks

According to the assessment of your residency in the following aspects, you are

53. Working environment and relationship with the other residents

Very satisfied

Not very satisfied

Satisfied

Dissatisfied

54. Staff physicians' commitment and dedication with your training

Very satisfied

Not very satisfied

Satisfied

Dissatisfied

55. Institutional commitment with the residency system

Very satisfied

Not very satisfied

Satisfied

Dissatisfied

56. Resident academic teaching and training

Very satisfied

Not very satisfied

Satisfied

Dissatisfied

57. Working conditions in your institution

Very satisfied

Not very satisfied

Satisfied

Dissatisfied

58. If you could select, would you choose again your profession? Yes No

59. If you could select, would you choose again your specialty? Yes No

60. If you could select, would you choose again your center? Yes No