# Looking for the Perfect Mentor

## Em Busca do Orientador de Formação Ideal

Ana PINHEIRO SÁ✉[1], Cristina TEIXEIRA-PINTO[2], Rafaela VERÍSSIMO[3], Andreia VILAS-BOAS[4], João FIRMINO-MACHADO[5]

**Acta Med Port 2015 Jul-Aug;28(4):486-493**


### ABSTRACT

**Introduction:** The authors established the profile of the Internal Medicine clinical teachers in Portugal aiming to define a future interventional strategy plan as adequate as possible to the target group and to the problems identified by the residents.

**Material and Methods:** Observational, transversal, analytic study. An online anonymous questionnaire was defined, evaluating the demographic characteristics of the clinical teachers, their path in Internal Medicine and their involvement in the residents learning process.

**Results:** We collected 213 valid questionnaires, making for an estimated response rate of 28.4%. Median global satisfaction with the clinical teacher was 4.52 (± 1.33 points) and the classification of the relationship between resident and clinical teacher was 4.86 ± 1.04 points. The perfect clinical teacher is defined by high standards of dedication and responsibility (4.9 ± 1.37 points), practical (4.8 ± 1.12 points) and theoretical skills (4.8 ± 1.07 points). The multiple linear regression model allowed to determine predictors of the resident's satisfaction with their clinical teacher, justifying 82,5% of the variation of satisfaction with the clinical teacher ($R^2$ = 0.83; $R^2_a$ = 0.82).

**Discussion:** Postgraduate medical education consists of an interaction between several areas of knowledge and intervening variables in the learning process having the clinical teacher in the central role. Overall, the pedagogical abilities were the most valued by the Internal Medicine residents regarding their clinical teacher, as determinants of a quality residentship.

**Conclusion:** This study demonstrates the critical relevance of the clinical teacher in the satisfaction of residents with their residentship. The established multiple linear regression model highlights the impact of the clinical and pedagogical relantionship with the clinical teacher in a relevant increase in the satisfaction with the latter.


**Keywords:** Education, Medical, Continuing; Education, Medical, Graduate; Internal Medicine/education; Internship and Residency; Mentors; Portugal; Questionnaires.


### RESUMO

**Introdução:** A formação médica pós-graduada consiste num processo complexo no qual os orientadores assumem um papel fundamental. Apesar da sua importância, pouco se sabe sobre os orientadores dos internos portugueses. O presente estudo pretende caracterizar os orientadores de formação em Medicina Interna em Portugal.

**Material e Métodos:** Realizado um estudo observacional, transversal e de carácter analítico, através um questionário *online* anónimo onde foram avaliadas as características demográficas dos orientadores, o seu percurso na Medicina Interna e envolvimento com o processo formativo.

**Resultados:** Dos 213 questionários válidos (taxa de resposta estimada de 28,4%), a média global da satisfação com o orientador encontra-se nos 4,52 pontos (± 1,33), sendo a relação entre interno e orientador classificada nos 4,86 ± 1,04 pontos. O orientador 'ideal' foi caracterizado como dedicado e responsável (4,9 ± 1,37 pontos), com domínio de competências práticas (4,8 ± 1,12 pontos) e teóricas (4,8 ± 1,07 pontos). Foram identificados como preditores da satisfação dos internos com o orientador a relação estabelecida entre ambos, o envolvimento do orientador na formação, o seu dinamismo, inovação e disponibilidade [modelo explicativo de 82,5% da satisfação ($R^2$ = 0,83; $R^2_a$ = 0,82)].

**Discussão:** O orientador desempenha um papel preponderante no sucesso da formação pós-graduada. Os internos de Medicina Interna em Portugal encontram-se globalmente satisfeitos com os seus orientadores e valorizam preferencialmente as suas capacidades pedagógicas.

**Conclusão:** Este estudo aponta para a importância do orientador de formação na satisfação do interno com o seu internato, alertando para a necessidade de investir nos orientadores como forma de investimento na formação médica pós-graduada.


**Palavras-chave:** Educação Médica Contínua; Ensino Médico Graduado; Internato; Medicina Interna/ensino, Mentores; Portugal; Questionários.

## INTRODUCTION

The impact of the tutor´s role in the training of future consultants with the ability to respond to Internal Medicine's high demands is undeniable but while acknowledging the tutor's key role in Internal Medicine residency, quality and continuous training criteria need to be established. Aspects such as the importance of complementary training

1. Departamento de Medicina Interna. Hospital de Santa Maria. Centro Hospitalar Lisboa Norte. Lisboa. Portugal.
2. Departamento de Medicina Interna. Unidade de Faro. Centro Hospitalar do Algarve. Faro. Portugal.
3. Departamento de Medicina Interna. Hospital de Gaia. Centro Hospitalar Vila Nova de Gaia/Espinho. Vila Nova de Gaia. Portugal.
4. Departamento de Medicina Interna. Unidade Local de Saúde de Matosinhos. Hospital Pedro Hispano. Matosinhos. Portugal.
5. Departamento de Saúde Pública. Unidade de Saúde Pública Porto Ocidental. Porto. Portugal.
✉ Autor correspondente: Ana Pinheiro Sá. ana.maria.pinheiro.sa@gmail.com

Recebido: 05 de Janeiro de 2015 - Aceite: 18 de Junho de 2015 | 

aimed at improving the tutor's performance, together with encouragement and motivation in training ability assessment mechanisms, have been frequently debated. In this regard, the World Health Organization (WHO) together with the World Federation for Medical Education (WFME) developed the Global Standards for Quality Improvement in Postgraduate Medical Education (2003) as an effort aimed to promote high quality standards in medical education.[1] The European Academy of Teachers in General Practice and Family Medicine (EURACT), an organization designed to promote high-quality training and information with Family Medicine in European countries has a similar aim.[2]

Postgraduate medical training follows basic training in which young physicians are trained under supervision until they reach an autonomous and independent medical practice.[1] This process includes the acquisition of different types of skills, such as learning and application of theoretical knowledge, the practice of medical procedures (whether or not invasive) and training interpersonal communication skills.[1] The participation of consultants in this training process is absolutely crucial and a synergistic and respectful cooperation with residents should be regarded as part of their duty and responsibility including diagnosis and therapy guiding, medical procedures and relationships with patients and their families, as well as with colleagues, as set out in the *Coding Deontological* (Ethical Code) of the *Ordem dos Medicos* (Portuguese Medical Association).[3]

The tutor has a fundamental role alongside the postgraduate career. On the one hand, due to his/her role as an examiner, he/she has the responsibility for the evaluation of checkpoints in the learning process, allowing for a tutorial based and step-by-step progression, alongside supervised clinical study and experience, along with residents and the department where they work.[4] On the other hand, the relationship between residents and tutors is fundamental to role-modelling-based learning.[5] Role-modelling or tutorial-based learning is a powerful teaching instrument, not always consciously used but allowing for the efficient transmission of knowledge, skills and medical values.[5] Role-modelling learning involves observation and reflection in a partly intentional and partly unintentional complex process.[5,6] In fact, different studies have shown that learning through modelling will probably have a greater impact on training than other forms of learning.[7,8] Considering that a significant part of the training process of future physicians partially depends on unintentional processes, the importance of encouraging the physician's role as a tutors is easily understood.

The tutor's training and definition of skills for the perfect tutor are therefore relevant aspects in postgraduate medical education. However, very little is known regarding training of tutors in Portugal and the resident's perspectives on this reality.

In Internal Medicine, the participation of tutors is particularly important considering their wide-ranging scope within a patient's pathophysiological characteristics and the vast interaction which is required with other specialties.[9] It should be mentioned that Internal Medicine is the basis for hospital dynamics and organization, explaining why approximately 13 to 15% of all residency vacancies are assigned to that specialty over the last few years.[10]

It should also be mentioned that, so far, there is no national study on the assessment of Internal Medicine resident's satisfaction towards tutors. These have only been performed in other specialties.[8, 11-14] several international studies on the quality of postgraduate training have been carried out, in search for an adequate assessment instrument. The Postgraduate Hospital Education Environment Measure (PHEEM) questionnaire, validated in different countries, [15-19] seems to be the most consensual instrument. This is a 40-item, three-domain (autonomy, teaching quality and social support perception) questionnaire. The role of the tutor is one of the elements identified as most relevant.[20]

At a time when the number of Internal Medicine residency vacancies is increasing year by year and finding ourselves confronted with the willingness of residents and tutors to ensure a quality internship, this study aimed to characterise Internal Medicine tutors in Portugal in order to allow for the most suitable planning of areas and intervention strategies to this target group, in accordance to the resident's described requirements.

## MATERIAL AND METHODS

This was an observational, cross-sectional and analytical study. An anonymous online questionnaire was designed using the Survivor™ platform where the tutor's demographic characteristics, Internal Medicine career (including the duration of clinical activity and additional postgraduate training) and involvement with the resident's training process were evaluated.

The items included in the questionnaire were defined by a focus group of residents within the Internal Medicine Portuguese Society (*Sociedade Portuguesa de Medicina Interna*), representing different regions and with different training experiences, based on a previous bibliographic research and on their previous training experiences.

The questionnaire includes 45 items and responses were scored through a six-point Likert scale, as shown in Table 1. Items were dichotomized into a positive (4-6) or negative (1-3) response. The questionnaire was sent by email to residents from the 661 contact network of the *Núcleo de Internos da Sociedade Portuguesa de Medicina Interna*, drawn from a universe of 750 national Internal Medicine residents, also disclosed through a social network available over the entire month of December 2013. All fully responded questionnaires by physicians attending to the Internal Medicine residency were included. Exclusion criteria were defined and included all non-fully responded questionnaires as well as questionnaires responded by residents from other specialties.

### Statistical analysis

The variable descriptive analysis aimed to characterise tutors and included frequencies and percentage for

Table 1 - Selected questions

| |
|---|
| How satisfied with your tutor are you? |
| How do you rate your relationship with your tutor? |
| How have your tutor been assigned to you: |
| By your own choice? |
| According to the Director's choice? |
| Does your tutor ensure that you comply with the residency aims? |
| How would you rank your tutor as regards: |
| Theoretical skills |
| Practical skills |
| Skills of communication with residents |
| Skills of peer communication |
| Teaching experience |
| Scientific work |
| Knowledge of the residency program and assessment grid |
| Drive and innovation |
| Dedication and responsibility |
| Availability |
| How would you rank your tutor's involvement in your: |
| Residency planning |
| Participation in teaching activities |
| Participation in research work |
| Participation in protocols |
| Discussion of case reports |
| Theoretical training |
| Practical training |
| Postgraduate training |
| Participation in congresses / scientific meetings |
| Sort in descending order of importance those characteristics that, according to you, the perfect tutor should have: |
| Being sensitive |
| Being didactic |
| Showing interest |
| Being motivating |
| Being available |
| Showing proficiency in theoretical knowledge |
| Showing proficiency in practical knowledge |
| Keeping updated |
| Challenging you for the discussion of case reports |
| Challenging you for research / new projects |
| Being demanding as regards your work |

categorical variables and mean and standard deviations for continuous variables.

Residents´ relationship with tutors and their involvement in educational tasks was assessed based on the definition of a set of items on a six-point Likert scale and each score was presented as its average value and standard deviation. Data normal distribution was tested using the Shapiro-Wilk test or the asymmetry and kurtosis value analysis for psychometric variables (asymmetry and kurtosis 3 and 8 maximum values were acceptable, respectively).

A multiple linear regression model was adjusted with stepwise data entry in order to determine predictors of satisfaction towards tutors.

All reported values of *p* were two-tailed, with a 0.05 significance level (α). Data analysis was carried out using SPSS software, version 22.

## RESULTS

In total, 226 fully-responded forms were submitted over the defined time period, from which 13 were excluded failing to have been completed by Internal Medicine residents. From an estimated universe of around 750 Internal Medicine residents in Portugal in 2013, 213 valid questionnaires were obtained (Fig. 1), corresponding to a 28.4% response rate, from which 153 (71.8%) were female, aged 28.7 (± 2.20) on average.

The socio-demographic characteristics of Internal Medicine tutors in Portugal are shown in Table 2. Most tutors are female (68.5%), aged less than 50 years (67.2%), with over 10 years as consultants (55.4%) and in the absence of postgraduate training (67.1%). There were mostly 2 or less residents per tutor (82.6%).

### Tutor perceived and desired characteristics

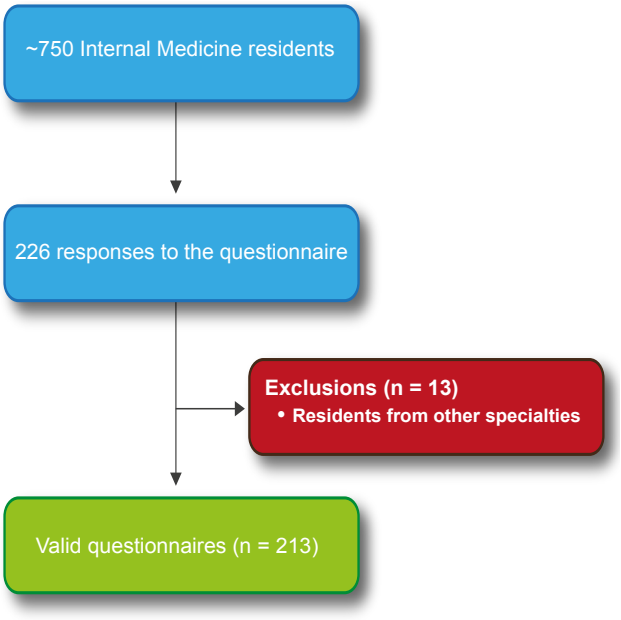


Figure 1 – Fluxogram

A 4.52 (± 1.33) tutor-related average global satisfaction and a 4.86 ± 1.04 score regarding the resident-tutor relationship were found.

The valuation attributed to tutors by residents in different areas of the personal profile and involvement in resident's activities related to their training is shown in Table 3. From these results, we reach the conclusion that the model of the Internal Medicine tutor should include high standards of dedication and responsibility (4.9 ± 1.37 average score), practical (4.8 ± 1.12 average score) and theoretical skills (4.8 ± 1.07 average score) as major characteristics. The major interventions of tutors on the resident's activities mostly regard the discussion of case reports (4.5 ± 1.32 average score), practical training (4.4 ± 1.40 average score) and internship planning (4.1 ± 1.41 average score).

We also found that 147 (69.0%) tutors ensured that residency aims were complied with.

When enquired about the perfect tutor's most desired characteristic, tutor's teaching skills, followed by availability, ability to motivate residents in training were the most valued

Table 2 - Demographic characteristics of tutors

| | n | % |
|---|---|---|
| Gender | | |
| Male | 67 | 31.5 |
| Female | 146 | 68.5 |
| Age (in years) | | |
| < 40 | 70 | 32.9 |
| 40 – 50 | 73 | 34.3 |
| 50 – 60 | 64 | 30.0 |
| > 60 | 6 | 2.8 |
| Geographical area | | |
| North | 90 | 42.3 |
| Center | 67 | 31.5 |
| South | 53 | 24.9 |
| Islands | 3 | 1.4 |
| Working time in specialty (in years) | | |
| < 2 | 3 | 1.4 |
| 2 – 5 | 40 | 18.8 |
| 5 – 10 | 52 | 24.4 |
| > 10 | 118 | 55.4 |
| Academic degree | | |
| Graduation | 143 | 67.1 |
| Postgraduate | 50 | 23.5 |
| Master | 13 | 6.1 |
| PhD | 7 | 3.3 |
| Supervised number of residents | | |
| 1 | 79 | 37.1 |
| 2 | 97 | 45.5 |
| 3 | 32 | 15.0 |
| 4 | 3 | 1.4 |
| NR | 2 | 0.9 |

characteristics. Tutor's ability to stimulate the development of research projects, continuous updating and challenging for case report discussion were considered as minor elements.

**Determination of satisfaction predictors towards the Internal Medicine tutor**

The adjusted multiple linear regression model allowed for the identification of variables such as the relationship with the tutor, tutor's involvement in theoretical training, tutor's classification in terms of drive and innovation, practical skills and availability, ability to ensure that residency aims are complied with, teaching experience and involvement in residency planning as resident's satisfaction predictors.

This model explains for 82.5% of variation in satisfaction towards the tutor ($R^2 = 0.83$; $R^2_a = 0.82$) and the quality of the relationship with the tutor being the most predominant variable, as shown in Table 4, in which a 1-point increase in this relationship is responsible for a 0.45-point increase in satisfaction.

## DISCUSSION

A physician's postgraduate training process regards the interaction between different areas of knowledge and variables involved in learning, in which the tutor's role is crucial.

Using the network of contacts of the *Núcleo de Internos da Sociedade Portuguesa de Medicina Interna* we were able to disclose the questionnaire to almost the entire universe of Internal Medicine residents. A response rate above 25% was obtained, which was considered as adequate to the adopted methodology.

In Portugal, Internal Medicine tutors are mostly aged below 50 (67.2%) and female (68.5%). We may consider that the high frequency of younger tutors may be explained by the natural hierarchy in most hospitals where senior elements are rather entrusted in leadership and management posts, with younger tutors eventually closer to training activities. This organization may therefore prevent residents from sharing more experienced physician's knowledge and experience, despite the benefit that it would bring to the structure of the department and therefore

Table 3 – Tutor skills (1 to 6 Likert's scale)

| | Mean (± SD) |
|---|---|
| Tutor ranking in: | |
| Theoretical skills | 4.80 (± 1.07) |
| Practical skills | 4.84 (± 1.12) |
| Communication with residents | 4.76 (± 1.15) |
| Peer communication | 4.61 (± 1.11) |
| Teaching experience | 4.28 (± 1.24) |
| Scientific work | 3.42 (± 1.40) |
| Knowledge of residency assessment grid | 4.48 (± 1.29) |
| Drive and innovation | 3.99 (± 1.41) |
| Dedication and responsibility | 4.85 (± 1.34) |
| Availability | 4.71 (± 1.37) |
| Tutor involvement in: | |
| Residency planning | 4.13 (± 1.41) |
| Participation in teaching activities | 3.43 (± 1.57) |
| Research work | 3.09 (± 1.50) |
| Protocol design | 3.16 (± 1.54) |
| Discussion of case reports | 4.49 (± 1.32) |
| Theoretical training | 4.10 (± 1.43) |
| Practical training | 4.36 (± 1.40) |
| Postgraduate training | 3.04 (± 1.59) |
| Participation in congresses and scientific meetings | 3.92 (± 1.42) |

Table 4 – Model of prediction of resident's satisfaction towards the tutor

| | Impact on the Increase in satisfaction towards the Tutor | |
|---|---|---|
| Independent variables | B (95% CI) | *p* |
| Relationship with the tutor | 0.45 (0.35 - 0.55) | < 0.001 |
| Ensure complying with residency aims | 0.31 (0.10 - 0.52) | < 0.01 |
| Practical skills | 0.20 (0.10 - 0.29) | < 0.001 |
| Involvement in theoretical training | 0.14 (0,05 - 0.23) | < 0.01 |
| Drive and innovation | 0.13 (0.04 - 0.22) | < 0.01 |
| Teaching experience | 0.13 (0.04 - 0.22) | < 0.01 |
| Availability | 0.11 (0.02 - 0.19) | 0.01 |
| Involvement in internship planning | 0.11 (0.02 - 0.19) | 0.01 |

an active involvement of more experienced consultants and directors should be encouraged as part of resident's training.

We found that each tutor on average, is responsible for two residents, complying with the current recommendations that take into account the necessary tutor's availability in order to ensure for an adequate training. Interestingly, a significant number of tutors is responsible for three or more residents (around 17%). Although it is not possible to determine the conditions in which this has happened, it may reflect the insufficient number of consultants fitted and motivated to training in some departments, the requirements imposed by the increasing number of residents, overloading those more involved in training. Our assessment did not include residents from other specialties, junior trainees, or medical students that were also under the supervision of the same tutors. This work overload imposed by tutorship of too many residents may represent a cause for dissatisfaction and discouragement towards teaching activity by tutors. Therefore, the authors have considered that strategies should be developed in order to involve more consultants in training activity. In addition, in a time when pressure is exerted in order to increase the number of vacancies in specific-training residencies, this should be taken as a warning in order to ensure adequate training conditions.

In Portugal, Internal Medicine residents feel globally satisfied with their tutors (4.52 ± 1.33 average response score), with whom they establish a positive relationship (4.86 ± 1.04). We were able to build a supporting model to resident's satisfaction towards tutors allowing for some indications regarding the areas where they may optimize their training. The training relationship between residents and their tutors was in fact one of the most valued items, supporting the conclusions already described by other authors, showing the core role of role-modelling in medical training.[5,21,22]

Lombarts *et al.*, in a study involving residents from different specialties, defined learning clinical setting, professionalism towards residents, knowledge and ability evaluation, objective and feedback communication as major predictors of satisfaction, all of these related to the established relationship between tutors and residents.[21]

Globally, tutor teaching abilities were the most valued by residents in Internal Medicine, as determinants of a quality internship. Vieira *et al.* have also reached the conclusion that items related to the perception of teaching quality (mostly those related to tutor's role) were those with most impact.[16]

Characteristics such as tutor's availability and innovation, theoretical training and teaching experience, practical skills, the ability to ensure compliance with residency aims and involvement in internship planning showed a significant impact in increasing satisfaction towards the tutor.

Tutors have a major role in training and the results of the questionnaire suggest that they are involved and motivated in teaching activity. In fact, the average scores of responses to the items regarding tutor's participation in the different stages of training stood always on a Likert's scale positive range (minimum 3.04 ± 1.59 and maximum 4.49 ± 1.32), suggesting a positive involvement of tutors with residency. In addition, also regarding dedication and responsibility (4.85 ± 1.34), availability (4.71 ± 1.37) and drive and innovation (3.99 ± 1.41), tutors were classified positively, also showing that they were motivated for training.

Internal Medicine residents are still seeking from their tutor someone available and dedicated, didactic, motivating and shown to be interested in global training. It should be mentioned that the items with lower ranking related to scientific work and research activities, which together with the global level of postgraduate training of tutors reinforce the importance of a higher investment in research and continuous training. The encouragement towards research projects, scientific update and the challenge towards the discussion of case reports are factors not considered as crucial, despite the importance these have in final assessment of the internship and in training of a good resident. However, it is possible that this is due to the fact that a tutor more dedicated to training will motivate the

resident to progress from an academic perspective.

In Portugal the lack of encouragement in research and the little culture towards updating and investing on the academic career reflects on residents and on the access these have to the scientific community. It is important to mention that the creation of research programs has a significant contribution to medical service growth and to an increase in training opportunities, with an important role to be played by senior physicians as tutors and as agents for change in the organization of medical services.[23] However, national scientific production is still largely dependent on the university community with large national asymmetries between investment in research and scientific publications, requiring adjustment.

Despite the fact that most tutors ensured that residency aims were complied with by trainees, the presence of 31% of tutors that do not comply is a possible area to be optimized, all the more so when this is one of the major aims of tutorship. In addition, the creation of individual internship plans should be considered as a crucial element to be encouraged and regularly reviewed by tutors.

We should mention that our study had several limitations, namely the fact that it was based on a convenience sample, considering that the questionnaire was voluntarily responded and having certainly been responded by residents mostly interested in training issues. In addition, as already described, it would be important to repeat this study using a properly validated questionnaire to the Portuguese reality and that would be able to cover a larger percentage of the population. It should also be mentioned that resident's satisfaction towards training is not necessarily synonym of a scientifically better training and this study focused on the measurement of psychometric variables related to satisfaction and not directly with the quality of the residency or with the real ability of residents. As described, learning is a complex process in which tutors have a relevant although non-exclusive role, in which factors such as motivation (also influenced by satisfaction and positive support by peers), experience and needs arising from practice also have important roles.[24] It would also be worthwhile to relate satisfaction of residents towards tutors to their performance in medical evaluation tests, although data interpretation would be hampered by biases related to the current forms of evaluation.

The relevance of postgraduate medical training is a current issue in the international scientific community, in which Internal Medicine in Portugal has not shown a very active participation. Our study is a first vision on tutor's desired characteristics for the perfect tutor in Internal Medicine. Considering that a significant part of the training process regards modelling learning, in which tutors are an example of skills, attitudes and behaviours, this study may provide valuable information towards a better quality postgraduate education.

## CONCLUSION

The results of this study show the crucial importance of tutors in resident's satisfaction towards training. As from the justified model that we were able to establish we should mention the impact of teaching and clinical relationship with the tutor on a significant increase in levels of satisfaction towards the latter. Our study raises more questions than answers and aimed to emphasize the importance of keeping a quality medical training that may prepare residents for future challenges in Internal Medicine. More detailed studies are fundamental in this area, involving some of the aspects that were not considered in our study, such as the real number of residents and medical students whose supervision tutors are responsible for. The creation and development of strategies regarding a higher involvement of tutors in the training process may become an important future track.

## ACKNOWLEDGEMENTS

The authors wish to acknowledge the institutional support of the *Sociedade Portuguesa de Medicina Interna* and individually to its tutors for their cooperation in writing this manuscript, as well as to all the residents that have responded to the questionnaire.

## HUMAN AND ANIMAL PROTECTION

The authors declare that the followed procedures were according to the regulations established by the responsible body of the Ethics and Clinical Research Committee and according to the Helsinki Declaration of the World Medical Association.

## DATA CONFIDENTIALITY

The authors declare that they have followed the protocols of their work centre on the publication of patient data.

## CONFLICTS OF INTEREST

The authors declare that there were no conflicts of interest in writing this manuscript.

## FINANCIAL SUPPORT

The authors declare that there was no financial support in writing this manuscript.

## REFERENCES

1. Karle H; Adams O; Bajaj J; Baron-Maldonado M; Cravioto A; Dal Poz M, et al. WHO | Postgraduate Medical Education - WFME Global Standards for Quality Improvement [Internet]. WHO. 2002 [consultado 2014 Dez 8]. Disponível em: http://www.who.int/workforcealliance/knowledge/toolkit/45/en/.
2. Euract. [consultado 2015 Abr 9]; Disponível em: http://www.euract.eu/.
3. Código Deontológico da Ordem dos Médicos. [consultado 2015 Abr 18]; Disponível em: https://www.ordemdosmedicos.pt/?lop=conteudo&op=9c838d2e45b2ad1094d42f4ef36764f6&id=cc42acc8ce334185e0193753adb6cb77.
4. Iobst WF, Sherbino J, Cate OT, Richardson DL, Dath D, Swing SR, et al. Competency-based medical education in postgraduate medical educa-

tion. Med Teach. 2010;32:651–6.
5. Cruess SR, Cruess RL, Steinert Y. Role modelling - making the most of a powerful teaching strategy. BMJ. 2008;336:718–21.
6. Epstein RM, Cole DR, Gawinski BA, Piotrowski-Lee S, Ruddy NB. How students learn from community-based preceptors. Arch Fam Med. 1998;7:149.
7. Park J, Woodrow SI, Reznick RK, Beales J, MacRae HM. Observation, reflection, and reinforcement: surgery faculty members' and residents' perceptions of how they learned professionalism: Acad Med. 2010;85:134–9.
8. Ratanawongsa N, Bolen S, Howell EE, Kern DE, Sisson SD, Larriviere D. Residents' perceptions of professionalism in training and practice: barriers, promoters, and duty hour requirements. J Gen Intern Med. 2006;21:758–63.
9. Programa de Formação em Medicina Interna. Portaria nº 614/2010 de 3 de Agosto.
10. Mapa de vagas do concurso do Internato Médico de 2009 a 2014. [consultado 2015 Abr 18]; Disponível em http://www.acss.min-saude.pt/
11. Azevedo A, Domingues B, Moura J, Santos L. Estão os internos satisfeitos com o internato de Medicina Geral e Familiar? Rev Port Med Geral Fam. 2014;30:24–30.
12. Carvalho F, Ventura T, Barroso R. Perfil de competências do orientador de formação. Rev Port Med Geral Fam. 2004;20:147–52.
13. Vieira D, Viegas I, Furtado N. Satisfação profissional em médicos da carreira de clínica geral. Acta Med Port. 1995;8:531–5.
14. Pinto da Costa M, Guerra C, Malta R, Moura M, Carvalho S, Mendonça D. Internato de psiquiatria rumo a um futuro global: a perspectiva dos internos em Portugal. Acta Med Port. 2013;26:357–60.
15. Riquelme A, Herrera C, Aranis C, Oporto J, Padilla O. Psychometric analyses and internal consistency of the PHEEM questionnaire to measure the clinical learning environment in the clerkship of a Medical School in Chile. Med Teach. 2009;31:e221–5.
16. Vieira JE. The postgraduate hospital educational environment measure (PHEEM) questionnaire identifies quality of instruction as a key factor predicting academic achievement. Clin São Paulo Braz. 2008;63:741–6.
17. Shokoohi S, Emami AH, Mohammadi A, Ahmadi S, Mojtahedzadeh R. Psychometric properties of the Postgraduate Hospital Educational Environment Measure in an Iranian hospital setting. Med Educ Online 2014;19.
18. Al-Shiekh MH, Ismail MH, Al-Khater SA. Validation of the postgraduate hospital educational environment measure at a Saudi university medical school. Saudi Med J. 2014;35:734–8.
19. Shimizu T, Tsugawa Y, Tanoue Y, Konishi R, Nishizaki Y, Kishimoto M, et al. The hospital educational environment and performance of residents in the General Medicine In-Training Examination: a multicenter study in Japan. Int J Gen Med. 2013;6:637–40.
20. Boor K, Scheele F, van der Vleuten CP, Scherpbier AJ, Teunissen PW, Sijtsma K. Psychometric properties of an instrument to measure the clinical learning environment. Med Educ. 2007;41:92–9.
21. Lombarts KM, Heineman MJ, Arah OA. Good clinical teachers likely to be specialist role models: results from a multicenter cross-sectional survey. PloS One. 2010;5:e15202.
22. Yedidia MJ, Schwartz MD, Hirschkorn C, Lipkin M. Learners as teachers: the conflicting roles of medical residents. J Gen Intern Med. 1995;10:615–23.
23. Rothberg MB, Kleppel R, Friderici JL, Hinchey K. Implementing a resident research program to overcome barriers to resident research. Acad Med J Assoc Am Med Coll. 2014;89:1133–9.
24. Taylor DC, Hamdy H. Adult learning theories: implications for learning and teaching in medical education: AMEE Guide No. 83. Med Teach. 2013;35:e1561-72.

Ana PINHEIRO SÁ, Cristina TEIXEIRA-PINTO, Rafaela VERÍSSIMO, Andreia VILAS-BOAS, Firmino MACHADO

# Looking for the Perfect Mentor

Acta Med Port 2015:28:486-493

Publicado pela **Acta Médica Portuguesa**, a Revista Científica da Ordem dos Médicos

Av. Almirante Gago Coutinho, 151
1749-084 Lisboa, Portugal.
Tel: +351 218 428 215
E-mail: submissao@actamedicaportuguesa.com
www.actamedicaportuguesa.com
ISSN:0870-399X | e-ISSN: 1646-0758

ACTA MÉDICA PORTUGUESA

PubMed