# Portuguese Primary Care physicians response rate in surveys: A systematic review

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## SUMMARY

**Introduction:** Surveys are a useful tool in primary care. However, low response rates can introduce selection bias, impairing both external and internal validity. The aim of this study was to assess the average response rate in surveys with Portuguese general practitioners (GPs).

**Method:** We searched the Medline, Web of Science, Scopus, Embase, PsychInfo, SciELO, IndexRMP, RCAAP, *Revista Portuguesa de Medicina Geral e Familiar, Acta Médica Portuguesa* and the proceedings of conferences of general practice from incepton to December 2016. We included all postal, e-mail, telephone and personal surveys to primary care physicians without language restrictions. We did not assess risk of bias of included studies, since the main outcome was survey response rate. We performed planned subgroup analyses of the use of monetary incentives, the use of non-monetary incentives, survey delivery modes and prior contact with participants.

**Results:** A total of 1,094 papers were identified and 37 studies were included in this review. The response rate in surveys done to Portuguese GPs was 56% (95CI 47-64%). There was substantial heterogeneity among included studies (I2=99%), but subgroup analysis did not explain this heterogeneity.

**Conclusion:** Consistent with other published studies, the average response rate in surveys done with Portuguese GPs was 56%, with substantial variation among studies. Use of monetary incentives, one of the most effective strategies to increase response rates, was not present in any of the included studies.

**Keywords:** Physicians. Family Practice. Primary Health Care. Surveys and Questionnaires. Portugal.

## INTRODUCTION

Surveys are useful in medical research.[1-3] They can provide insight on knowledge, attitudes and behaviors related to challenging conditions or complex patients. Furthermore, they can be used to assess needs, which can then guide interventions to improve care.[4,5] Surveys are used by a wide range of professionals in primary care research as a standardized tool which is easily applicable.[6]

Low response rates can introduce important selection bias into survey results due to the extent to which non-responders may differ from the study population.[7] Random sampling is done to ensure that the sample shares the same characteristics as the reference population. However, this may be compromised if there is a low number of non-respondents, as often non-respondents and respondents have different characteristics. For example, if respondents are more educated than non-respondents, the survey results may be representative of the most educated elements of the reference population, not the whole reference population. These differences can impair both external and internal validity.[8] International studies report an average response rate of 61% (95CI 59-63%)[9] for surveys in general practitioners (GPs).

GP survey response rates are influenced by monetary incentives, perceived value of the research, concerns about disrupting routine practice, time, confidentiality, volume of requests, questionnaire length and insufficient background information.[10] Furthermore, non-responders in surveys involving GPs seem to be older and less likely to possess a postgraduate medical degree or belong to a practice that is involved with post- or undergraduate training.[11]

Monetary incentives seem to be the most successful strategy to increase physicians' response rates to surveys.[12,13] Other effective approaches include non-monetary incentives, shorter surveys and pre-contact (defined as contacting participants before delivering the survey in order to explain the aim and clarify any doubts).[6,11,12] The survey delivery mode is also important, with postal surveys generally showing higher response rates when compared with telephone, e-mail, fax and online surveys.[11,14] Nevertheless, despite increasing evidence regarding strategies to improve participation, GP response rates to postal surveys over the past decades remain relatively unchanged.[9]

In Portuguese speaking countries, despite growing interest in primary care research, no data is currently available regarding average response rates in general practice surveys. Synthesizing response rates from prior surveys will help researchers adequately plan sample sizes for future projects. Thus, the aim of this study was to assess the average response rate in surveys done with Portuguese GPs, as well as identify its potential influencing factors.

## Method

### Selection criteria
We included studies that involved primary care physicians (family medicine specialists, non-specialists and residents), using all types of survey delivery modes (e.g., postal, e-mail, online, and telephone), and both validated and non-validated questionnaires, regardless of sponsor and knowledge field (e.g., clinical, public health, economics, management, marketing). Both published (journal article, report, thesis) and unpublished studies were considered. No language restriction was applied. Included studies needed to report the percentage of individuals contacted that completed the survey. Excluded studies included surveys directed mostly to public health specialists, physicians not involved with clinical practice (e.g., researchers or managers) or healthcare professionals other than doctors.

### Search methods for the identification of studies
We searched international databases (Medline, Web of Science, Scopus, Embase, PsychInfo and SciELO) and Portuguese repositories (IndexRMP, RCAAP); the last search date was December 2016. The search combined free terms and, when supported, controlled vocabulary (full search strategy available in Supplement I). We hand-searched the table of contents of the *Revista Portuguesa de Medicina Geral e Familiar* (RPMGF) (Portuguese Journal of General Practice with previous title: *Revista Portuguesa de Clínica Geral*) and the *Acta Médica Portuguesa* (AMP), as well as the reference lists of eligible articles. We also searched for grey literature in the conference proceedings of Portuguese family medicine conferences.

### Study selection
Two authors (NB, SC) independently scanned titles and abstracts from the references retrieved. When the title or abstract did not provide sufficient data to rule out eligibility, full text was obtained and eligibility was assessed independently by the same two authors. Disagreements were solved through discussion with a third author (BH or LL). Reasons for excluding a study were recorded and added to the PRISMA flowchart (Figure 1).

### Data extraction, synthesis and analysis
A standardized extraction form with all variables was developed and an identification tag was attributed to each publication. NB and SC abstracted the data for each study and both records were compared for data entry or coding errors; disagreements were solved through consensus. The following variables were collected: first/contact author, title, year when the first participant was recruited, type of publication and study research question. Our main outcome was survey response rate, defined as the number of physicians who provided valid data per number of physicians contacted. We also tried to identify potential explanatory variables to response rate: monetary and non-monetary incentive use, survey delivery mode (postal, telephone, e-mail, online, other) and existence of pre-contact (i.e., whether researchers contacted participants before the survey). Missing data was retrieved, when possible, through e-mail contact with the main author or the corresponding author of the study. As we were exclusively interested in survey participation rates, risk of bias assessment of individual studies was not assessed.

Categorical variables and participation rates were described as proportions. Categorical variables were described with frequencies and percentages. Assessment of publication bias was performed through visual inspection of funnel plots. Meta-analysis of the participation rates was performed using a random effects model (DerSimonian and Laird inverse variance method). Planned sub-
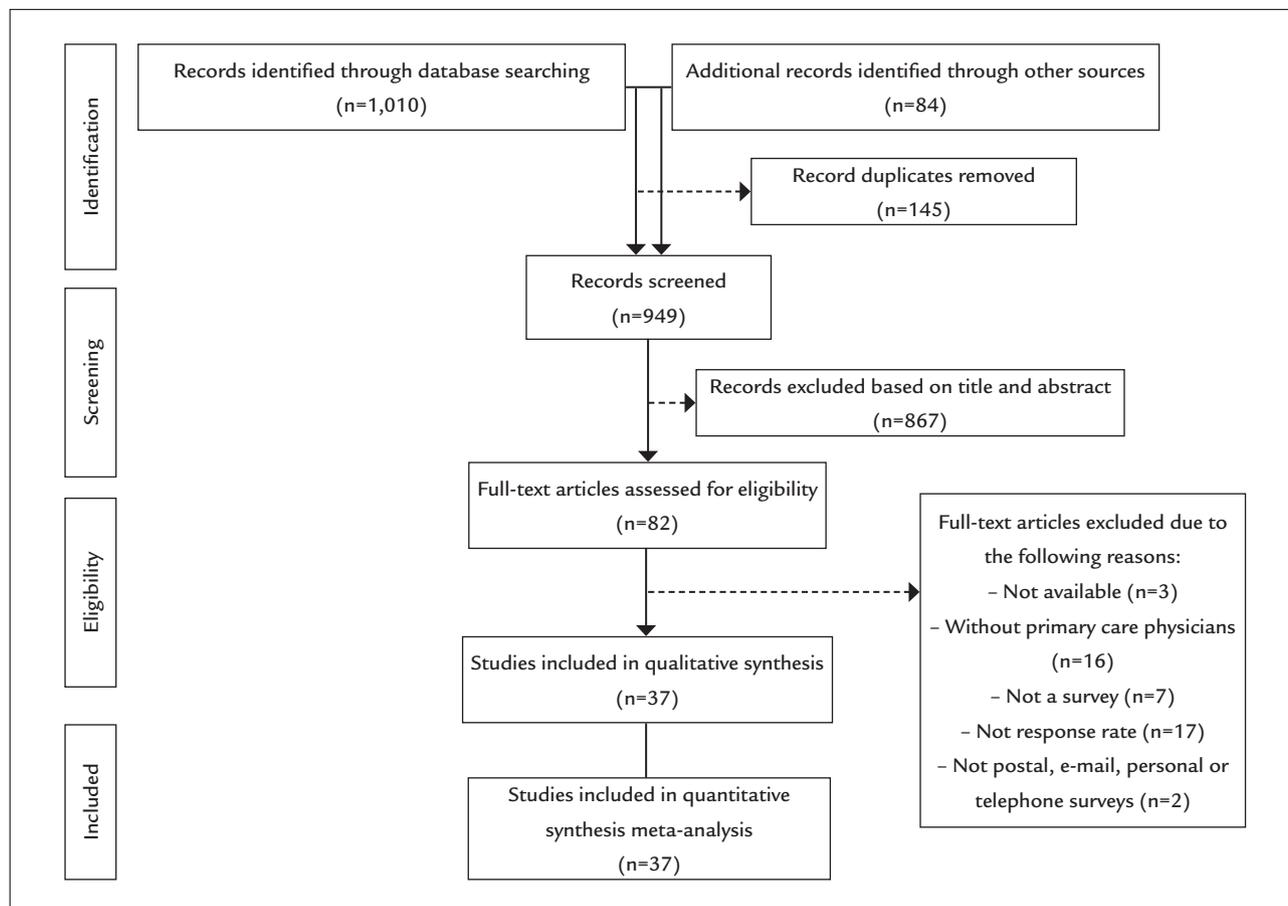
**FIGURE 1** PRISMA flowchart of retrieved studies.

group analyses included use of monetary incentives, use of non-monetary incentives, survey delivery modes and contact with participants prior to the survey. Heterogeneity was assessed visually and using $I^2$.

## RESULTS

A total of 1,010 papers were identified through database searching and 84 through a manual search of Portuguese journals, as well as from grey literature sources (Figure 1). Study characteristics are shown in Table 1. The smallest study had a total of 13 participants[15] and the largest had 2,815[16] (mean number of participants approximately 473 per study). The majority of studies addressed clinical practice issues, such as clinical diagnosis or treatment, and work satisfaction. Half of the included studies were developed in primary healthcare units. We also retrieved studies from Portuguese academic institutions, regulatory institutions related to health and pharmaceutics. Twelve (12) studies involved a national sample of physicians; 13 studies were conducted in the region of Lisbon and nine in the northern region of Portugal.

On average, the response rate in surveys done with Portuguese GPs was 56% (95CI 47-64%). There was substantial heterogeneity among included studies ($I^2$=99%) (Figure 2) and subgroup analyses did not explain this heterogeneity.

Four different delivery modes were used in the included studies: e-mail,[17-22] postal,[16,23-36] personal contact (i.e., researchers delivered the questionnaire directly to the potential respondent)[15,37-50] and telephone-based surveys.[51] Subgroup analysis suggests that response rates differed in studies which used different survey delivery modes (interaction test p<0.0001). The highest response rate (96%) was seen in the single study that was based on a telephone survey[51] (95CI 92-98%) and, on average, studies in which researchers handed out survey forms personally had higher response rates than those using e-mail or postal surveys. Nevertheless, study heterogeneity among subgroups defined by survey delivery mode remained high ($I^2$=99% for e-mail surveys, $I^2$=98% for personal delivery, and $I^2$=99% for postal surveys). Subgroup analysis also suggests that response rates differ in studies using non-monetary incentives (interaction test p=0.04). Only two studies used this kind of

incentive and both with postal reply-paid surveys,[32,50] but response rate was lower compared to no use of incentives. In both subgroups, heterogeneity remained high ($I^2=85\%$ and 99%, respectively). We found no evidence of an interaction between contacting study participants beforehand and response rates (interaction test p=0.27). We were unable to perform one of our main pre-specified subgroup analyses, since we found no studies using monetary incentives.

We also performed two non-pre-specified subgroup analyses to further explore the sources of heterogeneity. Firstly, we divided studies into small and large studies using an arbitrary cutoff of 500 participants, adjusted to our mean number of participants per study. Larger studies had lower response rates compared with smaller studies (interaction test p<0.0001), although there was still substantial

heterogeneity in the two subgroups ($I^2=95.1\%$ for smaller studies, and $I^2=99.3\%$ for larger studies). We also analyzed the impact of different affiliations on response rate but we found no evidence supporting this influence (interaction test p<0.01). Twenty-one (21) studies were affiliated to healthcare provider,[15,17-19,22-26,28,31,34,35,37-39,41,42,44,46,48] fourteen to academic institutions,[21,27,29,30,32,33,36,40,43,45,47,49-51] one related to regulatory institution[16] and other to the pharmaceutical industry.[20] Heterogeneity could not be explained by this subgroup analysis ($I^2=99\%$ for academic institution affiliation and $I^2=98\%$ for healthcare provider affiliation).

## DISCUSSION

On average, the response rate in surveys done to Portuguese GPs was 56%, but we found substantial heteroge-
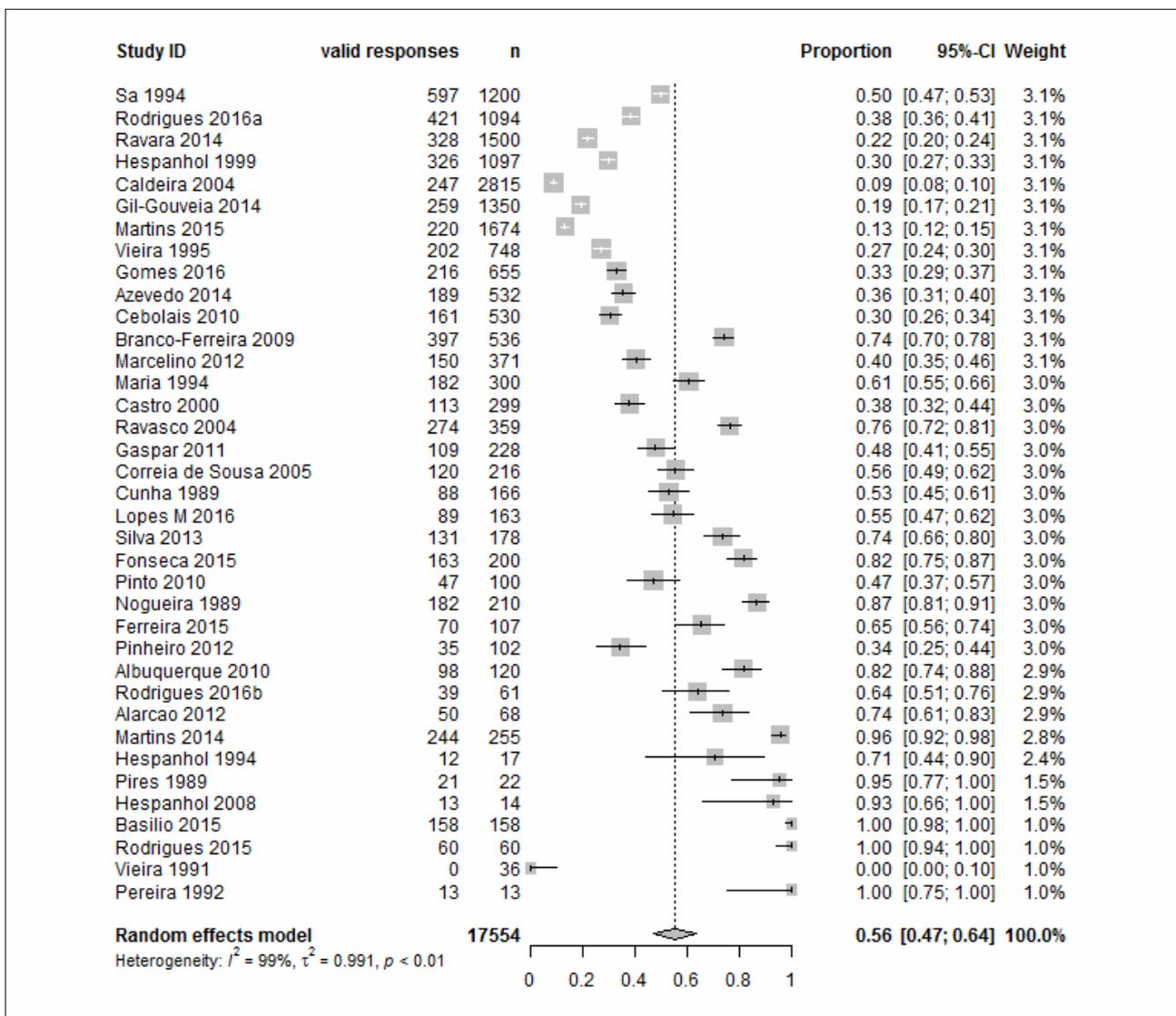


| Study ID | valid responses | n | Proportion | 95%-CI | Weight |
|---|---|---|---|---|---|
| Sa 1994 | 597 | 1200 | 0.50 | [0.47; 0.53] | 3.1% |
| Rodrigues 2016a | 421 | 1094 | 0.38 | [0.36; 0.41] | 3.1% |
| Ravara 2014 | 328 | 1500 | 0.22 | [0.20; 0.24] | 3.1% |
| Hespanhol 1999 | 326 | 1097 | 0.30 | [0.27; 0.33] | 3.1% |
| Caldeira 2004 | 247 | 2815 | 0.09 | [0.08; 0.10] | 3.1% |
| Gil-Gouveia 2014 | 259 | 1350 | 0.19 | [0.17; 0.21] | 3.1% |
| Martins 2015 | 220 | 1674 | 0.13 | [0.12; 0.15] | 3.1% |
| Vieira 1995 | 202 | 748 | 0.27 | [0.24; 0.30] | 3.1% |
| Gomes 2016 | 216 | 655 | 0.33 | [0.29; 0.37] | 3.1% |
| Azevedo 2014 | 189 | 532 | 0.36 | [0.31; 0.40] | 3.1% |
| Cebolais 2010 | 161 | 530 | 0.30 | [0.26; 0.34] | 3.1% |
| Branco-Ferreira 2009 | 397 | 536 | 0.74 | [0.70; 0.78] | 3.1% |
| Marcelino 2012 | 150 | 371 | 0.40 | [0.35; 0.46] | 3.1% |
| Maria 1994 | 182 | 300 | 0.61 | [0.55; 0.66] | 3.0% |
| Castro 2000 | 113 | 299 | 0.38 | [0.32; 0.44] | 3.0% |
| Ravasco 2004 | 274 | 359 | 0.76 | [0.72; 0.81] | 3.0% |
| Gaspar 2011 | 109 | 228 | 0.48 | [0.41; 0.55] | 3.0% |
| Correia de Sousa 2005 | 120 | 216 | 0.56 | [0.49; 0.62] | 3.0% |
| Cunha 1989 | 88 | 166 | 0.53 | [0.45; 0.61] | 3.0% |
| Lopes M 2016 | 89 | 163 | 0.55 | [0.47; 0.62] | 3.0% |
| Silva 2013 | 131 | 178 | 0.74 | [0.66; 0.80] | 3.0% |
| Fonseca 2015 | 163 | 200 | 0.82 | [0.75; 0.87] | 3.0% |
| Pinto 2010 | 47 | 100 | 0.47 | [0.37; 0.57] | 3.0% |
| Nogueira 1989 | 182 | 210 | 0.87 | [0.81; 0.91] | 3.0% |
| Ferreira 2015 | 70 | 107 | 0.65 | [0.56; 0.74] | 3.0% |
| Pinheiro 2012 | 35 | 102 | 0.34 | [0.25; 0.44] | 3.0% |
| Albuquerque 2010 | 98 | 120 | 0.82 | [0.74; 0.88] | 2.9% |
| Rodrigues 2016b | 39 | 61 | 0.64 | [0.51; 0.76] | 2.9% |
| Alarcao 2012 | 50 | 68 | 0.74 | [0.61; 0.83] | 2.9% |
| Martins 2014 | 244 | 255 | 0.96 | [0.92; 0.98] | 2.8% |
| Hespanhol 1994 | 12 | 17 | 0.71 | [0.44; 0.90] | 2.4% |
| Pires 1989 | 21 | 22 | 0.95 | [0.77; 1.00] | 1.5% |
| Hespanhol 2008 | 13 | 14 | 0.93 | [0.66; 1.00] | 1.5% |
| Basilio 2015 | 158 | 158 | 1.00 | [0.98; 1.00] | 1.0% |
| Rodrigues 2015 | 60 | 60 | 1.00 | [0.94; 1.00] | 1.0% |
| Vieira 1991 | 0 | 36 | 0.00 | [0.00; 0.10] | 1.0% |
| Pereira 1992 | 13 | 13 | 1.00 | [0.75; 1.00] | 1.0% |
| **Random effects model** | | 17554 | | 0.56 | [0.47; 0.64] | 100.0% |

Heterogeneity: $I^2=99\%$, $\tau^2=0.991$, $p<0.01$

**FIGURE 2** Forest plot of main results.

**TABLE 1** Characterization of the studies.

| Study ID | Aim of study | Study sample | Sample size | Incentives | Delivery mode | Previous contact | Affiliation |
|---|---|---|---|---|---|---|---|
| Cunha et al.[37] | To characterize primary and secondary care communication | GPs working on PHCU of Viseu region | 166 | No | Presential | Yes | Healthcare provider |
| Nogueira[38] | To determine GPs stress levels and exhaustion | GPs working of PHCU of Oporto region | 210 | No | Presential | No | Healthcare provider |
| Pires and Cerdeira[39] | To characterize professional satisfaction in a healthcare unit | GPs working on a PHCU | 22 | No | Unavailable | No | Healthcare provider |
| Vieira and Viegas[23] | To determine family doctors professional satisfaction | GPs working on a PHCU | 36 | No | Postal | No | Healthcare provider |
| Pereira[15] | To characterize home visits to patients of an healthcare center | GPs working on a PHCU | 13 | No | Presential | No | Healthcare provider |
| Hespanhol[40] | To evaluate GPs daily stress levels | GPs working on a PHCU | 17 | No | Presential | No | Academic institution |
| Maria et al.[24] | To evaluate knowledge and attitudes of GPs towards HIV infection | GPs working on PHCU of Lisbon region | 300 | No | Postal | No | Healthcare provider |
| Sá et al.[25] | To describe attitudes and habits of GPs towards tobacco use | GPs working on PHCU around the country | 1,200 | No | Postal | No | Healthcare provider |
| Vieira et al.[26] | To determine job satisfaction in physicians with a career in general clinical medicine | GPs working on PHCU around the country | 748 | No | Postal | No | Healthcare provider |
| Hespanhol et al.[27] | To evaluate professional satisfaction in family medicine | GPs working on northern region of Portugal | 1,097 | No | Postal | No | Academic institution |
| Castro[28] | To identify reasons to choose family medicine | GP residents on the northern region | 299 | No | Postal | No | Healthcare provider |
| Caldeira et al.[16] | To characterize antibiotics prescription on respiratory diseases | GPs around the country | 2,815 | No | Postal | Yes | Regulatory institution |
| Ravasco et al.[29] | To determine current practice of nutritional therapy in Portugal | GPs working on PHCU around the country | 359 | No | Postal | No | Academic institution |
| Correia-de--Sousa and Mateus[41] | To address family medicine residents and specialists reading habits and needs | GP residents and specialists working on the northern region of Portugal | 216 | No | Presential | No | Healthcare provider |
| Hespanhol[30] | To characterize professional satisfaction in a healthcare unit | GPs working on a PHCU | 14 | No | Postal | No | Academic institution |
| Branco--Ferreira[42] | To investigate therapeutic options in allergic rhinitis | GPs working on PHCU around the country | 536 | No | Presential | Yes | Healthcare provider |
| Albuquerque and von Hafe[17] | Translation of hypertension guidelines into practice | GPs working around the country | 120 | No | E-mail | No | Healthcare provider |
| Cebolais et al.[31] | To define reasons why family doctors take, or do not take, flu vaccine | GPs working on the south region of Portugal | 530 | No | Postal | No | Healthcare provider |
| Pinto and Corte-Real[18] | To determine the use of the international classification of primary care among family medicine residents | GP residents from south of Portugal, Azores and Madeira | 100 | No | E-mail | No | Healthcare provider |

*(Continues)*

## TABLE 1 (Cont.) Characterization of the studies.

| Study ID | Aim of study | Study sample | Sample size | Incentives | Delivery mode | Previous contact | Affiliation |
|---|---|---|---|---|---|---|---|
| Gaspar et al.[32] | To determine professional motivation during family medicine residency | GP residents around the country | 228 | No | Postal | No | Academic institution |
| Alarcão et al.[43] | To identify general practitioners' knowledge, attitudes, beliefs, and practices in the management of sexual dysfunction | GPs working in PHCU in the Lisbon region | 68 | No | Presential | Yes | Academic institution |
| Marcelino et al.[33] | To investigate burnout levels among Portuguese family doctors | GPs working on PHCU around the country | 371 | No | Postal | No | Academic institution |
| Pinheiro et al.[34] | To determine who recommends the adult cervical cancer vaccination | GPs working on PHCU of east Lisbon region | 102 | No | Postal | No | Healthcare provider |
| Silva et al.[44] | To determine expectations and difficulties perceived by GPs in mental health | GPs working on Portuguese northern region | 178 | No | Presential | No | Healthcare provider |
| Azevedo et al.[19] | To determine residency satisfaction among general practice residents | GP residents of the northern region of Portugal | 532 | No | E-mail | No | Healthcare provider |
| Gil-Gouveia[35] | To evaluate doctors' perspective about headache | GPs visited by representatives of study sponsor | 1,350 | No | Postal | No | Healthcare provider |
| Martins et al.[51] | To investigate preventive health services implemented by family physicians in Portugal | Portuguese GPs working on PHCU around the country | 255 | No | Telephone | Yes | Academic institution |
| Ravara et al.[45] | To characterize smoking behavior among Portuguese physicians | GPs attending two medical conferences | 1,500 | No | Presential | No | Academic institution |
| Basílio et al.[46] | To determine the perception of depression and anxiety among family physicians according to patient gender | GP residents and specialists attending to a primary care formation | 158 | No | Presential | No | Healthcare provider |
| Ferreira et al.[47] | Detection and intervention strategies by primary health care professionals in suspected elder abuse | GPs working on Coimbra region | 107 | No | Presential | No | Academic institution |
| Fonseca and Martins da Silva[20] | The diagnosis and treatment of LUTS due to benign prostatic hyperplasia by primary care family physicians | GPs working around the country | 200 | No | E-mail | No | Pharmaceutics |
| Martins et al.[21] | Career satisfaction of medical residents in Portugal | GP residents working around the country | 1,674 | No | E-mail | No | Academic institution |
| Gomes[22] | Depressive disorder prevalence in GP residents | GP residents of Portugal south region | 655 | No | E-mail | No | Healthcare provider |
| Lopes et al.[48] | Family evaluation tools use among GPs | GPs working on Lisbon region | 163 | No | Presential | No | Healthcare provider |
| Rodrigues et al.[49] | To define therapeutic options among family doctors in hypertension | GP residents and specialists working on PHCUs of Lisbon region | 60 | No | Presential | Yes | Academic institution |

(*Continues*)

| | | TABLE 1 (Cont.) Characterization of the studies. | | | | | |
|---|---|---|---|---|---|---|---|
| Study ID | Aim of study | Study sample | Sample size | Incentives | Delivery mode | Previous contact | Affiliation |
| Teixeira Rodrigues et al.[50] | To develop and validate an instrument to assess the attitudes and knowledge underlying physician antibiotic prescribing | GPs working on Lisbon region | 61 | No | Presential | No | Academic institution |
| Teixeira Rodrigues et al.[36] | To assess the influence of the determinants of physician prescribing on the quality of antibiotic use | GPs working on Lisbon region | 1,094 | No | Postal | No | Academic institution |

ID: identification; GPs: general practitioners; PHCU: primary healthcare unit; LUTS: lower urinary tract symptoms.

neity (I$^2$=99%). Our search did not retrieve any studies using monetary incentives, which is a strategy known to increase response rates.

The funnel plot is very asymmetric, suggesting that smaller studies were more likely to be published or presented at conferences if they had higher response rates.

### Strengths and limitations

The main strength of this study is our attempt to reduce bias by following systematic review guidelines.[52] Given that survey response rates may be related to publication status, we have made an effort to identify other surveys through conference proceedings, databases of MSc and PhD theses, and by contacting relevant authors. Yet, it is likely that small studies with low response rates were never published or presented at conferences, which means that the estimated average of 56% for response rates may be optimistic.

The major weakness of the study was the substantial heterogeneity that remains largely unexplained. It is reasonable to question whether a summary measure should be obtained when heterogeneity is high. However, we agree with the view that researchers and clinicians still need a best estimate to inform their decisions[53] and that it is licit to pool the primary studies' estimates together as long as their limitations are acknowledged. In our main meta-analysis, heterogeneity was very high (I$^2$=99%), and within our pre-specified and post-hoc subgroup analyses heterogeneity was also high (I$^2$>75.0%). The main factors described in the literature as having an influence in response rates do not explain the variation we found between studies.[11] In hindsight, we could have explored the topic of the survey or its length. Clinicians may be more inclined to reply to a survey if they think the topic is more interesting and if the questionnaire is short.[11]

### Interpretation in the context of the available literature

So far, surveys in Portugal have not used monetary incentives to increase GP participation rates. According to the international literature,[11,12] monetary incentives are the most effective method to increase survey participation. However, most of the studies we found were conducted by family medicine residents and the vast majority seemed to be self-funded. Yet, it shows that there is potential for increasing participation rates in Portuguese studies if there is more funding for research in general practice.

Our estimate of 56% response rate is consistent with the average response rate of 61% (95CI 59-63%) found in international studies.[8] We were surprised to find that pre-contact strategies were not associated with increased response rates (75% vs. 52%, p=0.27 for the interaction test), contrary to what has been previously described.[8] It is possible that this result is due to the small number of studies which described contacting participants before sending the questionnaires (n=6). We found that there were differences according to delivery mode. There was a single study surveying GPs by telephone,[51] which yielded the highest response rate in our review. However, it is impossible to say whether such high response rate is associated with this specific delivery mode or if it was due to other characteristics of this particular study. Personal delivery also seems to produce higher response rates (75%) compared to postal questionnaires (37%); e-mail questionnaires seem to have intermediate response rates (48%). A possible explanation is that in small surveys it is feasible to hand-in questionnaires personally, and that there is often some sort of personal relationship with the researcher (often a co-worker) that may contribute to increase the participation rate. In fact, it is clear in our data that smaller studies have higher response rates than larger studies. Whether this is a true association or just an artifact of publication bias (small

studies with low response rates not being considered for publication or presentation) is unclear to us.

## Conclusion

Researchers wanting to conduct surveys with Portuguese general practitioners should anticipate response rates of 56% or lower. There is substantial variation in response rates in this target population, which remains unexplained. Monetary incentives should be considered by researchers in future studies, as this has been shown in the international literature to be an effective strategy in increasing response rates.

## Resumo

Taxa de respostas dos médicos de família portugueses a questionários: uma revisão sistemática

**Introdução:** Questionários são úteis na investigação em cuidados de saúde primários. Contudo, baixas taxas de resposta podem introduzir um viés de seleção, prejudicando a validade externa e interna. O objetivo deste estudo foi identificar a taxa de resposta média a questionários aplicados a médicos de família (MF) portugueses.

**Método:** Foram pesquisadas as bases de dados Medline, Web of Science, Scopus, Embase, PsychInfo, SciELO, IndexRMP, RCAAP, *Revista Portuguesa de Medicina Geral e Familiar*, *Acta Médica Portuguesa* e resumos em conferências de medicina familiar do início até dezembro de 2016. Incluiram-se estudos realizados a médicos de família portugueses independentemente de sua tipologia, do tipo de entrega (correio, e-mail, pessoalmente e por telefone) e do idioma do artigo. Não foi avaliado o risco de viés dos artigos porque o principal resultado considerado foi a taxa de resposta. Foram efetuadas análises de subgrupos sobre a utilização de incentivos monetários, de incentivos não monetários, o modo de entrega e o contato prévio com os participantes.

**Resultados:** Foram identificados 1.094 artigos e incluídos 37 estudos. O número de participantes em cada estudo variou entre 13 e 2.815 participantes. A taxa de resposta média foi de 56% (IC95% 47-64%). Identificou-se uma heterogeneidade substancial (I²=99%) não explicável pela análise de subgrupos.

**Conclusão:** A taxa de resposta média a inquéritos realizados a MF portugueses foi de 56%, o que corresponde aos valores identificados em revisões internacionais, apesar da variação significativa entre os estudos englobados nesta revisão. O uso de incentivos monetários, uma das estratégias mais eficazes para aumentar as taxas de resposta, não foi identificado em qualquer dos estudos incluídos.

**Palavras-chave:** Médicos. Medicina de Família e Comunidade. Atenção Primária à Saúde. Inquéritos e Questionários. Portugal.

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