How do GPs versus GP trainees adapt to electronic health records? A Portuguese pilot study

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ABSTRACT

Background This study compares general practitioners (GPs) and general practice trainees (GPTs) on the adaptation to the electronic health records (EHRs) and how they perceive its impact on medical consultations.

Methods Cross-sectional, descriptive study. The link for an online questionnaire was sent to mainland Portuguese health care centre groups.

Results A total of 147 physicians (100 females and 47 males). GPs had more learning difficulties in using the EHR (P < 0.05), greater difficulty in keeping regular updated records (P < 0.001) and a more noticeable fear of the possibility of occurring prescription errors (P < 0.05), when compared with GPTs. Most GPs (75%) and GPTs (80.4%) are satisfied with how they use the EHR.

Conclusions Most participants have adhered to the EHR, and are satisfied with its use. A negative impact on medical consultations was not observed. However, it is the group of GPs that is less adapted to the electronic system.

BACKGROUND

According to the available data, 64% of the Portuguese family medicine practices have a computer for consultation purposes.1 Electronic health records (EHRs), described as computer-based patient record systems,2 are not very common in Portugal, with 60% of family medicine practices storing individual medical patient data. In comparison, higher rates can be found in Hungary (100%), Finland (100%), Iceland (99%), Estonia (98%), Norway (98%), Denmark (97%), the Netherlands (97%), Sweden (96%) and the United Kingdom (95%).3

A future increase of EHR use in Portugal is foreseeable, particularly after the publication in October 2010 of the decree-law no. 106-A/20104 that mandates all medical prescriptions to be electronic.

In the Portuguese primary health care centres, there are three major EHRs developed on Web technology (graphic interface): a government EHR solution (Medical Support System – SAM) that is present in 88% of the practices, and two private ones – MedicineOne (6%) and VITAHISCARE (4%).6

The expected benefits from the adoption of the EHR – having ‘accessible, comparable, communicable and confidential’ clinical data – outweigh the unintended consequences of using the electronic systems, which makes EHR an essential tool in the primary care setting.

Although the electronic applications for prescribing are present in most Portuguese health care centres since 2004,8 difficulties are still encountered. These are usually acknowledged more by general practitioners (GPs) than by general practice trainees (GPTs). Notwithstanding the wealth of international literature on age/experience and technology,9 we were unable to find published reports relating to Portuguese primary care physicians, and so we devised a study that compares GPs and GPTs regarding the adaptation to the EHRs and how they perceive its impact on medical consultations.
METHODS

A cross-sectional, descriptive study was conducted. We determined that a sample of 147 physicians was the minimum required, with a precision of 8% and 95% confidence interval. The link for an online questionnaire was sent by email to all the randomly selected mainland Portuguese health care centre groups. It was available for filling out by GPs and GPTs from January to June 2010. The variables assessed by the questionnaire were age category, gender, years of clinical practice, duration of EHR usage, adherence to the EHR, consultation impact and satisfaction with the EHR. Approval by an ethics committee was not required since physicians were only questioned about professional beliefs.

Descriptive analysis and chi-squared tests for group comparisons were performed. \( P \) values < 0.05 were considered statistically significant.

RESULTS

The sample included 147 physicians, 80 of which were GPs (60% females) and 67 GPTs (77.6% females). Mean years (± standard deviation) of clinical practice were 13.9 ± 12.9 years. Mean EHR utilisation by the participants was 2.8 ± 1.8 years. The majority of the sample uses SAM (71.4%), MedicineOne (15%) and VITAHISCARE (13.6%).

GPTs were younger (median age category 20–24 years versus 50–54 years), had less years of clinical practice (2.5 ± 1.4 versus 23.4 ± 10.1 years) and less time of EHR experience (1.7 ± 1.1 versus 3.5 ± 1.8 years), when compared with GPs.

Considering adherence to the EHR, most of the samples (95.5% GPTs and 93.8% GPs) indicated that registration of all consultations was made with the EHR and that the electronic prescription was used on all appointments (97% GPTs and 96.3% GPs).

It can be seen from the data in Figure 1 that the majority of respondents disagreed that the EHR interferes negatively with the consultations, or that EHR increases consultation time, or even that using EHR means less time devoted to the patient.

GPs had greater learning difficulties in using the EHRs (\( P < 0.05 \)), had greater difficulty in keeping regular updated records (\( P < 0.001 \)) and greater fear of the possibility of occurring prescription errors (\( P < 0.05 \)), compared with GPTs (Figure 1).

From this study, we can also infer that GPs (75%) and GPTs (80.4%) are generally satisfied with the EHR.

DISCUSSION

Since participant physicians had to answer to an online questionnaire, there is the possibility of a response bias. The sample may have a higher interest about EHR, compared with non-respondent physicians. This may explain the findings that the majority of participants adhere to the EHRs and are satisfied with its use. Regardless, it is evident that even in a high EHR usage sample of physicians, like the one studied, it is the group of GPs that is less adapted to the EHR. This finding is consistent with the previous literature that states better adaptation to the EHR by younger physicians.\(^9\)

CONCLUSION

Any extrapolation of the results should be done with caution due to the small number of participants. However, the findings indicate that GPs will probably need more support to adapt to EHR, which may include computer education and support programs\(^10\) provided by the institutions where they practise.

Future research will require larger samples and the setting up of focus group sessions.
REFERENCES


