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Medical Software Usage In a Primary Care Training Program - Are We Training Our Future Doctors To Use the EMR?

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Abstract

The electronic medical record (EMR) is playing an increasingly important role in primary care. This study investigates the current training provided by a primary care training program in the EMR, barriers to training, and an examination of both supervisor and trainee views on technology and training provision. The results indicate acceptance of the EMR in primary care and appropriate basic EMR skills. However, both trainees and supervisors state that there is a lack of formal training. A concern raised through this study was the divergent views between program organisations and supervisors on who should provide this training.

Keywords:

electronic medical record, training, primary care, medical software

Introduction

The usage of computers in Australian primary care has gathered pace over the last decade. Associated with this uptake of computers is the evolution of the electronic medical record (EMR) (1). Given the penetrance of EMR usage in Australian general practice, a number of barriers still exist in Australia for a fully integrated EMR. Liaw et al suggests issues of standards, business costs and training as barriers to usage of medical software (2). This is supported by research that reports that four main areas need to be addressed: environmental, organisational, personal and technical. (3) (4).

John Seely Brown, in his article, "Growing up Digital," suggests two important traits which are present "iPod" generation – their ability to multi-task, and their like for instant information (5). This generation will be the first truly digital generation, with the capacity to use electronic-based work processes such as the EMR. The question lies now in whether we are adequately training our next generation of doctors to succeed in a computerised work setting. As training is important to successful uptake of the EMR, primary care trainees are in the ideal situation to learn, develop and refine their EMR skills (6).

Aims

This study had three goals:

1. To investigate current perceived skills in using computers and EMR functions
2. To investigate what training is currently provided
3. To investigate the views and attitudes of trainees and their supervisors on technology, the EMR, and training provision

Methods

This descriptive study surveyed all GP supervisors (n=74) and community-based trainees (n=273) undertaking a three-year fellowship in an Australian primary care training program. First year trainees were excluded as they were hospital-based, not community-based. Surveys captured quantitative data but also allowed for qualitative descriptive comments. Survey data was entered into a specifically designed Access Database, analysed using frequencies, and a comparison between supervisors and trainees was made using Odds Ratios and Logistical Regression. The qualitative data was independently analysed by three investigators to explore emergent themes, which were subsequently discussed and consensus achieved. This project was reviewed and approved by The University of Melbourne Human Research Ethics Committee.

Results

The survey response rate was 44% from primary care trainees (n=120), and 77% from GP supervisors (n=57) who provide the majority of day to day supervision to the trainee. Seventy-four percent of trainees were female whilst seventy-seven percent of supervisors were male. Mean age of trainees was 32 years old whilst supervisors mean age was 47 years old. Over 90% of trainees and supervisors were trained in Australian universities.

Trainees and supervisors were questioned about their views, knowledge and current skills in medical software. The results are listed in Table 1. On comparison with the two groups studied, skills in using basic EMR processes were equal between groups, with supervisors having superior skills in advanced tasks such as the 75 year-old health assessment (OR 0.31 [0.15-0.62]) and Chronic Disease Management plan (OR 0.20 [0.09-0.47]).

Training issues – trainee views

The majority of trainees had no prior training in the EMR, with only 27% indicating previous training. EMR education in the program for the vast majority of trainees was done on-site with supervisors (78%) in an ad hoc fashion, mainly learn-as-you-go or passively while observing consultations. 58% of trainees reported EMR training that lasted between 30-120 minutes, whilst only a third (35%) received more than 3 hours, and some trainees had none at all.

Trainees were asked about whether they would like further training and if so, when and where training should be undertaken. 53% indicated a desire for formal training with 28% stating no further training was required. There was overwhelming support for formal training to be undertaken before entering community based placements and in particular advanced skills development (81%).

Trainees were asked to describe barriers to the usage of EMR medical software. Common themes emerged regarding lack of time and lack of specific EMR knowledge and are similar to the themes listed in the supervisor views.

Training issues – supervisor views

Over half (53%) of GP supervisors indicated that they had been previously trained in the use of EMR software. However a third (37%) of supervisors indicated a need for further EMR training with a similar number unsure about the need for further training. Supervisors indicated strongly that training for trainees should be undertaken before or at the commencement of their practice based terms (82%).

The supervisors were asked to identify barriers to medical software training in their practices. The responses could be divided into five themes:

1. Generational issues – an assumption that trainees were more IT-savvy and thus no training was required
2. Knowledge – supervisors' lack of medical software skills and knowledge
3. Time – emphasis on pre-placement training
4. Priorities – limited time with clinical issues taking priority
5. Place of training – there were divergent views on the ideal venue for training, between in-house supervisor-run training versus training from dedicated training providers

Discussion

Both trainees and supervisors were positive about the role of medical software, were not intimidated by technology and stated their preference for computers in delivering medical care. Other skills were similar between the two groups.

The results of this study suggest that medical software is not being utilised effectively in the trainee group, yet the trainees are confident in their computer skills. It suggests basic skills are naturally learnt and practised by trainees but higher level functions such as care plans and health assessments are not being utilised for patient care by trainees. This would indicate that training particular in advanced skills is lacking and that direction is required by training supervisors and organisations.

Descriptive comments made by both trainees and supervisors indicating low levels of formal training and previous training in usage of medical software. The comments made by trainees about in-house training are a concern given that the EMR is a legal document and must accurately reflect the patient status. The common assumption that the new generation of doctors will already know how to use EMR software is not only incorrect, but poses a significant barrier towards ensuring that the next generation of general practitioners will be fully proficient in the computerised work environment.

Many barriers listed by the two groups are similar to barriers identified in other published articles. A new barrier to emerge from this study is the divergent viewpoints about which party is responsible for the training. Stakeholders including supervisors, training program organisations and government bodies must provide a consensus agreement in the areas of resources, formal training requirements and competency level evaluations as part of the trainee's learning program.

Conclusion

Primary care training programs will have a crucial role in developing skills in the area medical software usage. Training should be a shared responsibility between both the supervisor and training provider to ensure skill competencies. The future of primary care requires a more computer-literate doctor. Doctors with these attributes will need to be assisted in drawing these skills together.

Table 1 – Training views, knowledge and skills in Medical Software (MS = medical software)

Trainee View (n=120) / Supervisor View (n=57) – listed in combination. Numbers described as %					
Background View	**SA**	**A**	**N**	**D**	**SDA**
MS is useful for patient care	64/60	33/30	3/10	0/0	0/0
MS is a hindrance to patient care	3/2	4/9	9/11	52/24	32/54
I am using MS optimally	12/12	46/44	18/18	22/19	2/7
I am fearful of MS	1/0	4/7	10/11	47/42	38/40
I am fearful of technology	1/0	7/9	11/16	40/35	41/40

I prefer handwritten notes	1/4	4/12	13/7	35/37	47/40
I am confident in my computer skills	21/21	53/40	18/35	8/10	0/4
SA = Strongly Agree A = Agree N = Neutral D= Disagree SDA = Strongly Disagree					

Skills/Ability to use computers in various tasks (Numbers as %)		
	Trainees	Supervisors
Writing scripts	97	100
Writing referrals	97	92
Ordering tests	95	96
Performing a patient reminder	91	89
75 year old assessment	47	74
Chronic Disease Management plan	56	86
Past History record update	88	93

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