



UNIVERSIDADE DA BEIRA INTERIOR
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Voluntary Electronic Patient Record State Of The Art

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Dedicatória

Dedico todo o meu esforço e empenho aos meus pais, ao meu irmão, ao meu sobrinho e ao Helder.

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Agradeço profundamente ao Professor Doutor Henrique Martins, pela sua preciosa orientação e disponibilidade.

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À Dra. Marta Duarte, pelo seu carinho e atenção em todos os momentos que necessitei.

Aos meus amigos e familiares que sempre me apoiaram ao longo do percurso que fiz até aqui.

Um agradecimento especial ao Hélder, por tudo que faz por mim.

Prefácio

Lembro-me de ser muito pequenina e alguém me perguntar o que queria ser quando crescesse, a minha resposta foi de imediato “Quero ser médica”.

Esse desejo cresceu comigo e trouxe-me até aqui.

Senti sempre que a melhor maneira de ser feliz é “fazer os outros felizes” (Baden Powell) e por isso quando, na primeira aula de Liderança e Gestão em Saúde, o Professor Doutor Henrique Martins referiu que a melhor forma de ajudar o maior número de pessoas é trabalhar um método de distribuir mais eficazmente os recursos de que dispomos, percebi de imediato que era nesta área que deveria realizar a minha Dissertação.

Espero, sinceramente, que este possa ser o primeiro de muitos passos no sentido de ajudar de facto o maior número de pessoas possível.

Abstract

Introduction: With an ongoing economic crisis, Portugal and many other countries are looking into ways to increase efficiencies in all sectors. With almost 10% of the Gross Domestic Product (GDP) spent in Healthcare, there is a need to improve the use of resources.

A Voluntary Electronic Patient Record (VEPR) *is an online record of health and healthcare related data provided by the patient himself, available to him, and his authorized health care providers and relatives, in a ubiquitous way anywhere/everywhere.*

According to some authors through VEPRs, every health institution could have an easier access to a summary of the patient's most important health data if needed and authorized.

Just like Portugal, Australia, for example, is currently preparing a health care reform and the implementation of a Personally Controlled Electronic Health Record (PCEHR) system is also being studied. Surveys to general practitioners and consumers of eHealth are being conducted in order to evaluate the quality and sustainability of Australia's health care and to develop change and adoption strategies for the PCEHR system.

VEPRs can be provided by private companies, hospitals and health organizations or health departments of governments themselves.

In Portugal there is at least one VEPR free of charge provided by a private company. This has raised issues of security of data and risks, and has not been approved by the data protection agency, possibly due to considerations on its massive use as well as the ethical issues of linking it to national health data from the NHS.

In addition to this private VEPR, Portugal also provides some health online services: eAgenda and eRNU ("Registo Nacional de Utentes") since 2009.

Currently, eAgenda allows patients to schedule for doctor's appointments and to ask for prescriptions renewal.

The online health service, eRNU, allows users to check their general practitioner, the health institution in which they are registered, the health services it provides and its opening schedule.

VEPR can be efficient, allowing better sharing of information between health care providers through the online availability of health information. It can be convenient; provide easy access to timely and accurate information no matter where the patient is or when he needs

it. It is empowering as it enables the patient to be more active and involved with his own health care.

To ensure the privacy of the patient's health information, a security program is required to allow only the appropriately authorized individuals to access the VEPR and to save the record's data in case of a technical breakdown occurs. On the other hand, although everyone can have a VEPR, this is normally restricted to younger, more info-included citizens as access to the internet is not universal and there is a natural difficulty in older generations to use IT and Internet. This, however, can be mitigated and will only have a tendency to dissipate in future.

Aims:

1. To assess the state of the art about VEPR;
2. To assess the state of the art about VEPR in Portugal;
3. To assess users expectancies towards VEPR in Portugal;
4. To help developing and set in motion a VEPR adjusted to Portuguese population's health challenges.

Methodology: This is a transversal study with a qualitative and quantitative approach.

To elaborate this paper, a literature review was made in order to identify sources of information about VEPR and current state of the art on this field.

It was established a cooperation with the Portuguese Ministry of Health as it was the only way to indirect and directly collect data about the portuguese VEPR, eAgenda and eRNU.

A questionnaire composed of 14 questions, made anonymous, was created using Lime Survey™, named "*Inquérito para utilizadores dos serviços eAgenda e eRNU*", permission obtained and it was then sent to eAgenda and eRNU users through their e-mail addresses.

Data was processed using Microsoft Office Excel 97-2003 and statistically analyzed resorting to Epi Info 7.

Because the last question was an open question, the related data was processed manually.

Results: Currently, eAgenda and eRNU serve about 4% of the portuguese population.

The typical user is female, married, completed high school, has children and age median 38, 5 years old.

Own and household appointments scheduling were the more frequently selected as the most useful functionalities as well as those that most contributed to improvement on health care delivery.

Waiting time reduction was the most frequent selected advantage of eAgenda and eRNU.

Conclusions: It is to be concluded that eAgenda and eRNU are well suited for the portuguese population as only 3,28% of the inquired users pointed eAgenda and eRNU services has not having any advantage.

More studies are still required to understand the patterns of use and to promote the online services so that more people, not only 4% of the overall portuguese population, may take advantage of their benefits.

Keywords

Voluntary Electronic Patient Record;

Personally Controlled Electronic Health Record;

Computers;

Patients;

Healthcare.

Resumo

Introdução: Na atual conjuntura de crise, Portugal é forçado a tomar medidas de austeridade, cortar despesas e aumentar receitas. Sendo a saúde nacional responsável pelo dispêndio de cerca de 10% do PIB (Produto Interno Bruto), torna-se necessário “otimizar recursos e gerar eficiência”.

É neste contexto que surge o conceito *Voluntary Electronic Patient Record (VEPR)*, que *consiste num registo digital voluntariamente cedido pelo doente e que estará ao acesso do próprio doente e dos profissionais de saúde e familiares autorizados. Nesse registo constará a informação de saúde mais importante à qual se poderá aceder a partir de qualquer instituição desde que com o devido consentimento do doente.*

Tal como Portugal, a Austrália, por exemplo, prepara também neste momento uma reforma do Plano Nacional de Saúde (PNS) onde constam entre outras medidas, a implementação de um *Personally Controlled Electronic Health Record (PCEHR) system cuja tradução significaria algo como um sistema de Registo Electrónico de Saúde controlado pelo doente*. Para isso estão a ser realizados questionários a *stakeholders* do *eHealth* (definido como o uso de tecnologia para melhorar a prestação de cuidados de saúde) com o intuito de avaliar a qualidade e sustentabilidade dos cuidados de saúde do país e de desenvolver estratégias de mudança e adoção de um *PCEHR system*.

O *VEPR* vai facilitar a transição do doente de uma instituição para outra, reduzir erros de medicação e interações medicamentosas e reduzir desperdícios e duplicações nomeadamente de exames complementares de diagnóstico.

Estando disponível digitalmente, este tipo de registo vai aproximar e melhorar a comunicação entre profissionais de saúde, que até ao momento só é possível por correio eletrónico, carta, fax ou telefone, e entre estes e o doente.

Tal como o registo tradicional, o registo digital tem desvantagens no que diz respeito à privacidade do doente sendo que as medidas de segurança devem ser reforçadas limitando o acesso apenas a indivíduos devidamente autorizados e protegendo os dados em caso de falha técnica do sistema de armazenamento de dados.

Por outro lado, este tipo de registo, apesar de estar ao alcance de todos, irá inicialmente colmatar apenas problemas de acesso aos cuidados de saúde nos grupos que acedem mais à internet e não nos escalões etários mais altos, no entanto isto tende a dissipar-se no futuro.

Portugal dispõe de pelo menos um modelo de *VEPR* totalmente gratuito, mas pertence a uma empresa privada o que levanta questões relativamente à privacidade dos dados e riscos de segurança tendo em conta a extensão do seu uso, para além das questões éticas que a sua ligação ao Serviço Nacional de Saúde implicaria.

No setor público, Portugal conta com o eAgenda e eRNU (Registo Nacional de Utentes), que são serviços de saúde *online*.

O serviço de saúde eAgenda permite atualmente, aos utentes inscritos, a marcação de consultas para o próprio e para elementos do agregado familiar, com o seu médico de família e concretizar pedidos de renovação de medicação.

Quanto ao eRNU, permite aos utentes, consultar a sua inscrição no Serviço Nacional de Saúde, a unidade de saúde familiar a que pertencem e respetivo horário de funcionamento, o nome do seu médico de família e o tipo de consultas pelos quais se responsabiliza.

Objectivos:

1. Estudar o estado da arte em relação ao *VEPR*;
2. Estudar o estado da arte em relação ao *VEPR* em Portugal;
3. Estudar as expectativas dos utilizadores em relação ao *VEPR* em Portugal;
4. Ajudar a desenvolver e implementar um *VEPR* adequado às necessidades da população portuguesa.

Metodologia: Este é um estudo transversal qualitativo e quantitativo.

Para desenvolver este estudo foi feita uma revisão da literatura no intuito de identificar fontes de informação sobre o *VEPR*, bem como o atual estado da arte neste campo.

Foi estabelecida uma cooperação com o Ministério da Saúde em Portugal no sentido de obter dados direta e indiretamente sobre os serviços de saúde *online*, eAgenda e eRNU.

Os resultados recolhidos indiretamente correspondem aos dados fornecidos pelo Ministério da Saúde e os resultados diretos correspondem àqueles obtidos através da realização de um questionário composto por catorze questões.

O questionário foi criado usando o programa *Lime Survey* TM, com o título “Inquérito para utilizadores dos serviços eAgenda e eRNU”.

Este questionário foi enviado por correio eletrónico aos utilizadores dos serviços eAgenda e eRNU, sendo as respostas tornadas anónimas.

Os dados obtidos foram processados usando o *Microsoft Office Excel 97-2003* e analisados estatisticamente com o programa *Epi Info 7*.

A última questão do “Inquérito para utilizadores dos serviços eAgenda e eRNU” era uma questão de resposta aberta e por isso foi processada manualmente.

Resultados: Atualmente os serviços eAgenda e eRNU abrangem cerca de 4% da população portuguesa.

O utilizador tipo é do género feminino, casado, completou o 12º ano de escolaridade, tem filhos e a mediana da idade é 38,5 anos.

A marcação de consultas quer para o próprio quer para elementos do agregado familiar foi a funcionalidade mais frequentemente selecionada como sendo “muito útil” e como a que mais contribuiu para uma melhoria da prestação de cuidados de saúde.

A redução do tempo de espera para marcação de uma consulta foi a vantagem mais selecionada dos serviços eAgenda e eRNU.

Conclusões: Conclui-se que os serviços de saúde *online*, eAgenda e eRNU estão bem adaptados à população portuguesa, uma vez que apenas 3,28% dos utilizadores que responderam ao questionário afirmaram não reconhecer qualquer vantagem nos serviços.

São necessários mais estudos para compreender os padrões de utilização e melhor divulgar os serviços de modo a abranger uma maior percentagem da população portuguesa, para que cada vez mais pessoas possam usufruir das suas vantagens.

Palavras-chave

Voluntary Electronic Patient Record;

Personally Controlled Electronic Health Record;

Computadores;

Doentes;

Cuidados de saúde.

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List of Abbreviations

VEPR	Voluntary Electronic Patient Record
PCEHR	Personally Controlled Electronic Health Record
NHS	National Health Service
HIT	Health Technology Information
PIB	Produto Interno Bruto
PNS	Plano Nacional de Saúde
SNS	Serviço Nacional de Saúde
ACSS	Administração Central do Sistema de Saúde
EHR	Electronic Health Record
EMR	Electronic Medical Record
EPR	Electronic Patient Record
PRM	Patient Relationship Management
CRM	Customer Relationship Management
SCR	Summary Care Record
DCR	Detailed Care Records
SNOMED CT	Systematized Nomenclature of Medicine Clinical Terms
ANOVA	Analysis Of Variance

Introduction

Customer Relationship Management (CRM) system is the mechanism by which private and commercial companies tempt their customers, luring them to become regular clients. This system's objective is to meet customers' needs, providing them quality services and satisfaction.

In the healthcare setting, patients are the end and key customers. And in this setting, the system is called Patient Relationship Management (PRM) system.

The increasing number of healthcare institutions in the market and the ongoing economic crisis are launching healthcare on a very competitive trip towards relationship marketing.

In few years, patients will select hospitals considering not only the price but also the quality of the services supplied⁽¹⁾.

In this respect, relationship marketing is the machinery that produces loyal customers, establishing long term relationships, therefore representing quite an important weapon for hospital administrators.

To achieve patients' satisfaction and meet their needs, hospitals must consider adopting PRM systems. This is said to improve patient care through more personalized treatment and simultaneously save healthcare resources forming a powerful tool in healthcare reforms⁽²⁾⁽³⁾.

Physicians are the primary co-customers of healthcare organizations and them too are included on Customer or Patient Relationship Management system, as there is evidence that patient rely upon physicians to determine their choice of healthcare facilities⁽⁴⁾.

PRM systems may also innovate public health information through data mining, a process that can explore a tremendous pool of information, uncovering previously unknown patterns and trends⁽⁵⁾, revolutionizing patient follow-up systems, physicians performance, treatments efficacy and adverse side effects⁽²⁾⁽³⁾.

PRM systems may integrate different types of electronic health records from different sources, whether from patients or their caregivers, or their care providers or lab tests or healthcare institutions, recurring to HL7⁽²⁾, a specification that sets the templates in which the integration takes place, so that distinctive applications may contribute to patient's health records⁽⁶⁾.

This paper addresses a specific electronic health record, the Voluntary Electronic Patient Record (VEPR).

Table 1. Types of Electronic Health Records. Adapted from “Definition, structure, content, use and impacts of electronic health records” (7).

Type of EHR	Definition
Electronic Medical Record (EMR)	Generally focused on medical care
Departmental EMR	Contains information entered by a single hospital department
Inter-departmental EMR	Contains information from two or more hospital departments
Hospital EMR	Contains all or most of patient’s clinical information from a particular hospital
Inter-hospital EMR	Contains patient’s medical information from two or more hospitals
Electronic Patient Record (EPR)	Contains all or most of patient’s clinical information from a particular hospital
Computerized Patient Record (CPR)	Contains all or most of patient’s clinical information from a particular hospital
Electronic Health Care Record (EHCR)	Contains all patient health information
Personal Health Record (PHR)	Controlled by the patient and contains information at least partly entered by the patient
Computerized Medical Record	Created by image scanning of a paper-based health record
Digital Medical Record	A web-based record maintained by a health care provider
Clinical Data Repository	An operational data store that holds and manages clinical data collected from health service providers
Electronic Client Record	Scope is defined by health care professionals other than physicians
Virtual EHR	No authoritative definition
Population Health Record	Contains aggregated and usually de-identified data

Just like Portugal, Australia, for example, is currently preparing a health care reform and the implementation of a Personally Controlled Electronic Health Record (PCEHR) system is also being studied.

Apart from Australia, United Kingdom, United States of America, Canada and France are also looking into ways to adopt a VEPR(8)(9).

In England, two separate Electronic Patient Records are proposed, the Summary Care Record (SCR), containing basic information, and the Detailed Care Records (DCR), containing more comprehensive clinical information, suggesting Systematized Nomenclature of Medicine

Clinical Terms (SNOMED CT) as the program to codify all the clinical information from the different healthcare delivery settings⁽⁹⁾.

VEPR is an online record of health and healthcare related data provided by the patient himself, available to him, and his authorized health care providers and relatives, in a ubiquitous way anywhere/everywhere.

VEPR can be efficient, allowing better sharing of information between health care providers through the online availability of health information. It can be convenient; provide easy access to timely and accurate information no matter where the patient is or when he needs it. It is empowering as it enables the patient to be more active and involved with his own health care.

To ensure the privacy of the patient's health information, a security program is required to allow only the appropriately authorized individuals to access the VEPR and to save the record's data in case of a technical breakdown occurs. On the other hand, although everyone can have a VEPR, this is normally restricted to younger, more info-included citizens as access to the internet is not universal and there is a natural difficulty in older generations to use IT and Internet. This, however, can be mitigated and will only have a tendency to dissipate in future.

VEPR's stakeholders would then be the public, patients or their relatives, health professionals, health administrators, policymakers, researchers and governments, which represents the entire NHS⁽⁸⁾.

Out of this circle, but also stakeholders, would be private health insurers⁽⁸⁾.

VEPRs can be provided by private companies, hospitals and health organizations or health departments of governments themselves.

In Portugal there is at least on VEPR free of charge provided by a private company. This has raised issues of security of data and risks, and has not been approved by the data protection agency, possibly due to considerations on its massive use as well as the ethical issues of linking it to national health data from the NHS.

In addition to this private VEPR, Portugal also provides some health online services: eAgenda and eRNU ("Registo Nacional de Utentes") since 2009.

Currently, eAgenda allows patients to schedule for own and household's appointments and to ask for prescriptions renewal.

The online health service, eRNU, allows users to check their general practitioner, the health institution in which they are registered, the health services it provides and its opening schedule.

The aims of this study are:

1. To assess the state of the art about VEPR;
2. To assess the state of the art about VEPR in Portugal
3. To assess users expectancies towards VEPR in Portugal;
4. To help developing and set in motion a VEPR adjusted to Portuguese population's health challenges

Methodology

In order to identify sources of information for the literature review, online search engines were used, Google and Pub Med, and the following expressions were introduced “Customer Relationship Management”, “Patient Relationship Management”, “Voluntary Electronic Patient Record” and “Personally Controlled Electronic Health Record”. This resulted in seventeen academic articles, which were taken into account on the elaboration of this paper, and a number of other sources, commercial, non-academic publications and reports were also read but as background information to elicit better discussion of the topic.

Cooperation was established with the Portuguese Ministry of Health, through the *Comissão para a Informatização Clínica* and the *ACSS - Administração Central do Sistema de Saúde* - in order to collect information about eAgenda and eRNU users’.

Data about users’ gender, age and total number was asked, as well as information regarding the usage of eAgenda and eRNU functionalities, such as amount of appointments scheduled recurring to eAgenda.

With the aim of collecting data on current usage of Ministry of Health online services, eAgenda and eRNU, an online questionnaire was also created (Annexes).

Relevant authorizations were obtained and invitation to fill in an anonymous questionnaire was sent to all users of the services.

To be precise, the questionnaire was sent to 300318 users through their e-mail addresses.

Although there were 353213 users on February 15th, 5990 weren’t available, 16 were time out, 270 had no valid e-mail address and 46619 had no e-mail address on their registration.

The questionnaire was available during 10 days and then disconnected.

The questionnaire, named “Inquérito para utilizadores dos serviços eAgenda e eRNU” was created using Lime Survey and it was composed of thirteen required multiple choice questions and one open not required question. It was divided in two groups of questions.

The first group was related to personal information where questions like age, marital status, having kids, being pregnant and qualifications were asked.

The second group of questions was related to online health services, eAgenda and eRNU, utilization.

Users were asked about how they got to know about those services, which functionalities did they consider useful and which would they like to see available on the next version of eAgenda and eRNU, if these online health services contributed with advantages to their health, what advantages did they recognize on these services, if they would like to be informed every time new functionalities are added to eAgenda and/or eRNU and if they would like to contribute to the development of new versions of portuguese on-line health services.

The last question on this group was an open not required question, asking users to write any suggestions to improve eAgenda and eRNU.

Some of the scale type questions were made of five answer options numbered 1 to 5, and an additional don't know/never used answer in order to avoid the tendency to choose the answer on the middle.

The remaining questions were to answer on a Yes/No fashion or simple multiple choices.

Open questions were prevented because of the number of expected answers and also because it would be almost impossible to statistically analyze data.

Statistical Analysis

The collected data was processed using Microsoft Office Excel 97-2003 and statistically analyzed resorting to Epi Info 7, using 5% confidence intervals, ANOVA, Bartlett's Test, and Man-Whitney/Wilcoxon Two Sample Test (Kruskall-Wallis Test for Two groups).

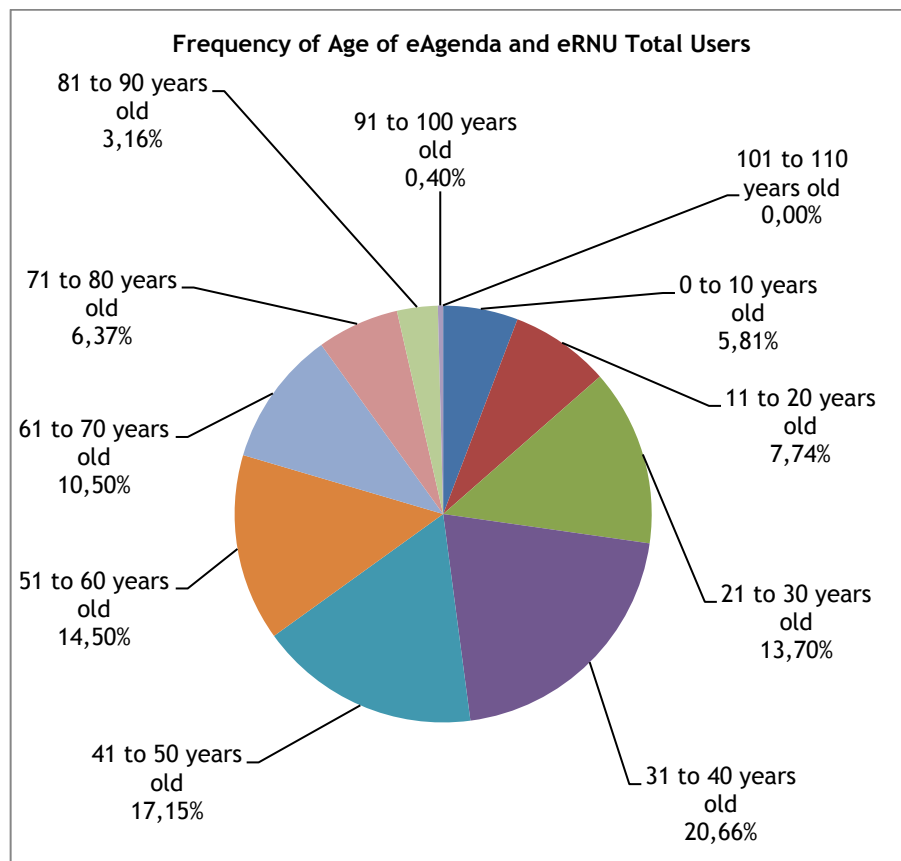
Data regarding the open question was manually processed. A manual theme analysis was performed. This meant suggestions were read until repetitive themes were identified which were then displayed according to the frequency of their appearance in answers provided.

Results

According to data provided by the Portuguese Ministry of Health, on March 27th there were 425 280 users registered on the Ministry of Health online services, eAgenda and eRNU.

The eAgenda and eRNU users population was composed of 255 253 female users (60, 02%) and 170 027 male users (39, 98%). The age median was 41,5 years for female and 42,0 years for male.

There are 21 users with age between 101 and 110 years old.



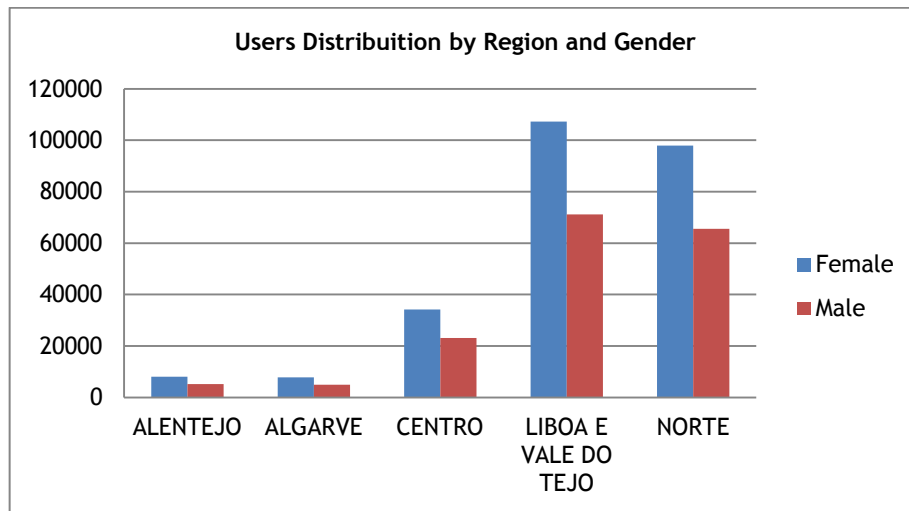
Graphic 1. Frequency of age of eAgenda and eRNU total users.

Table 2. Age strata of total eAgenda and eRNU users.

Age Strata	Frequency on Total eAgenda and eRNU Users
0-14 years	8,60%
15-64 years	75,88%
≥ 65 years	15,51%

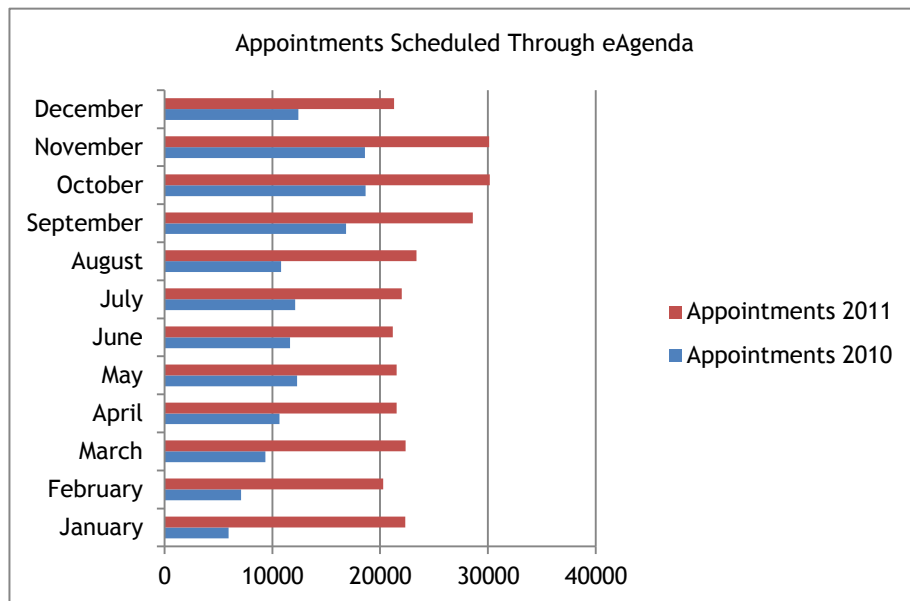
The regions with more registered users are “Lisboa e Vale do Tejo” and “Norte”.

In every region, female users are predominant.



Graphic 2. Users distribution by Region and Gender.

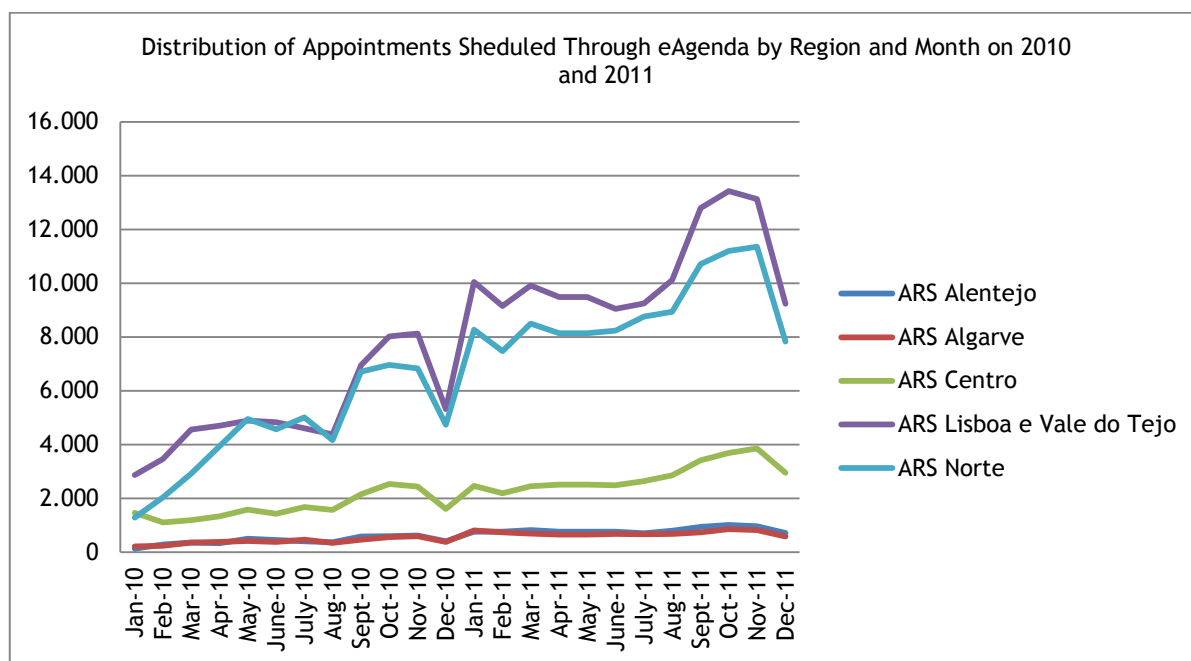
From January 2010 to December 2011, a total of 431258 appointments were scheduled through eAgenda, 146 465 of them were scheduled on 2010 and 284 793 on 2011.



Graphic 3. Appointments scheduled through eAgenda on 2010 and 2011.

Again, “Lisboa e Vale do Tejo” and “Norte” are the regions that scheduled more appointments through eAgenda.

Graphic number 4 shows a tendency to a reduction on the number of scheduled appointments every year around December, in every region.



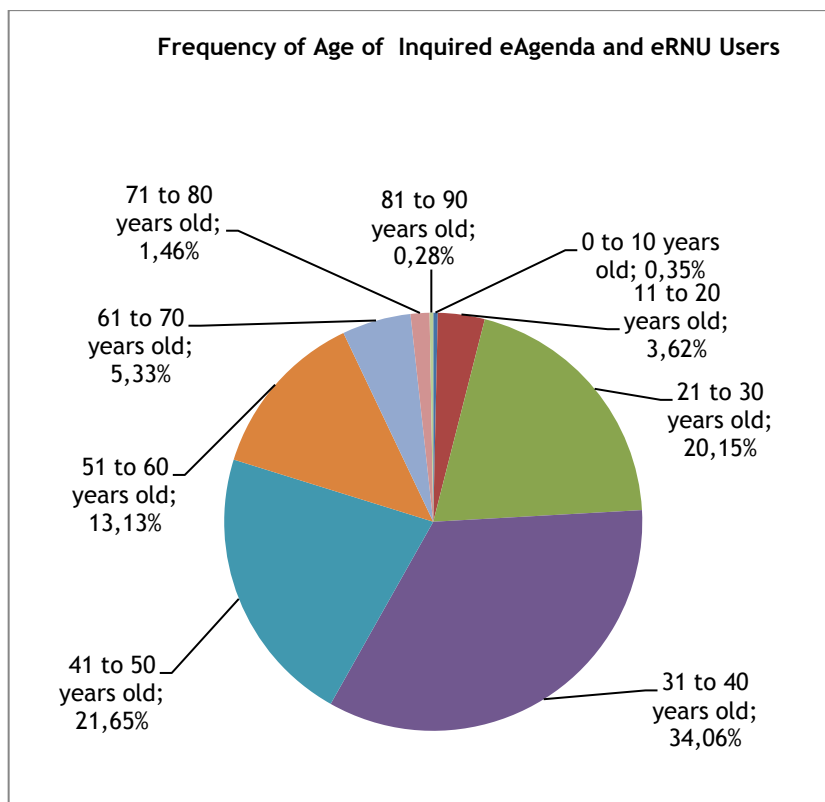
Graphic 4. Distribution of appointments scheduled through eAgenda by region and month on 2010 and 2011.

When processing data from the inquired eAgenda and eRNU users, 12 reports were eliminated because of errors completing questions, this accounted for 19839 total reports.

From the 300318 e-mails sent, 19851 answers were returned, in other words, 6,61% of the users with a valid e-mail address submitted the survey and 64,47% totally completed the questions.

The inquired eAgenda and eRNU users population was composed of 64,32% female users and 35,68% male users.

The median of age was significantly different (p value <0,001) between females (36,5 years) and males (44,0 years).



Graphic 5. Frequency of age of the inquired eAgenda and eRNU users.

Table 3. Age strata of inquired eAgenda and eRNU users.

Age Strata	Frequency on Inquired eAgenda and eRNU Users
0-14 years	0,56%
15-64 years	94,94%
≥ 65 years	4,50%

Most were married (50, 81%) and had children (54, 36%).

Table 4. Frequency of marital status of eAgenda and eRNU users.

Marital Status	Frequency
Married	50,81%
Single	28,64%
Living with someone	11,99%
Divorced	6,69%
Widow/Widower	1,13%
Other	0,73%

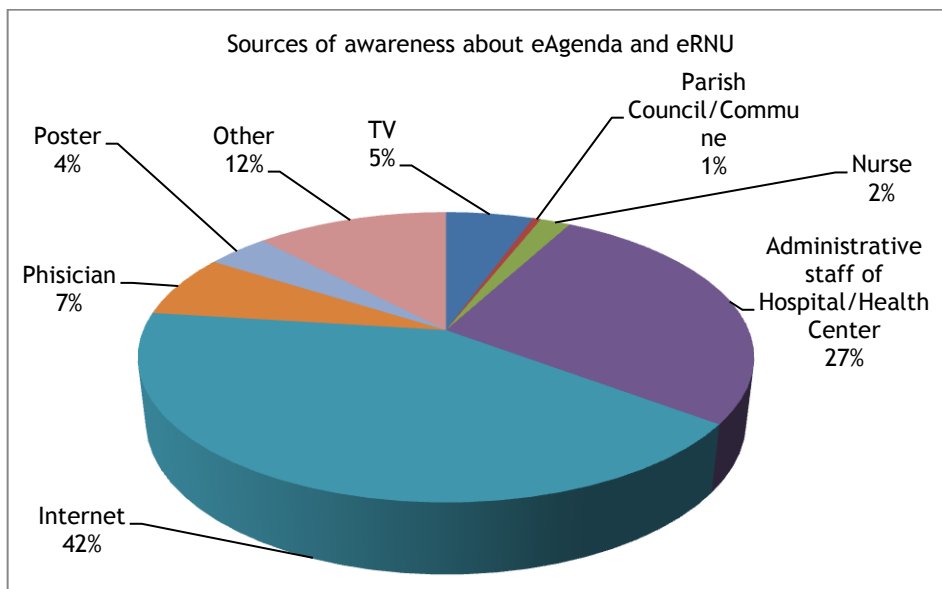
About 3, 08% of the female inquired were pregnant.

According to the submitted answers, most users went to High School.

Table 5. Frequency of qualifications of eAgenda and eRNU users. Primary School=1st to 4th grade.

Qualifications	Frequency
Primary School	3,07%
Ninth grade	13,36%
High school	35,78%
Bachelor	4,69%
Degree	30,72%
Master	7,40%
Ph.D.	1,06%
Other	3,93%

Internet was selected as the most common source of awareness about eAgenda and eRNU.



Graphic 6. Sources of awareness about eAgenda and eRNU.

When asked to score actual functionalities on a 1 to 5 utility scale, most users scored Own and Household's Appointments Scheduling with "5" and eRNU and Prescription Renewing with the Unknown/Never Used option.

Table 6. Actual Functionalities' Utility. 0-Don't know/Never used; 1- Less useful; 5-more useful.

Actual Functionalities	Utility						Mean	Mode
	0	1	2	3	4	5		
Own's Appointments Scheduling	19,15%	5,22%	3,15%	7,98%	14,46%	50,03%	3,4347	5
Household's Appointments Scheduling	31,06%	4,44%	3,06%	7,36%	13,32%	40,76%	2,8971	5
eRNU	45,34%	4,35%	3,83%	10,04%	13,31%	23,13%	2,1103	0
Prescription Renewing	54,26%	4,75%	2,82%	6,17%	8,73%	23,27%	1,8018	0

Own and Household's Appointments Scheduling were also scored as the actual functionalities that most contributed to improvement on health care delivery.

Table 7. Actual eAgenda and eRNU Functionalities' Influence on Health Care Delivery. 0- Don't Know/Never Used; 1- Minor improvement; 5- Major Improvement.

Actual Functionalities	Improvement on Health Care Delivery						Mean	Mode
	0	1	2	3	4	5		
Own's Appointments Scheduling	16,07%	6,07%	3,93%	11,71%	18,70%	43,52%	3,4146	5
Household's Appointments Scheduling	26,24%	5,20%	3,87%	10,88%	17,69%	36,12%	2,9692	5
eRNU	41,55%	5,23%	4,71%	12,15%	14,46%	21,91%	2,1846	0
Prescription Renewing	46,27%	4,94%	3,31%	8,77%	12,43%	24,29%	2,0901	0

Among proposed future functionalities, Vaccines Alert was considered very useful and important by 63, 28% of the users and also a major future contributor to improvement on health care delivery (Tables 8 and 9).

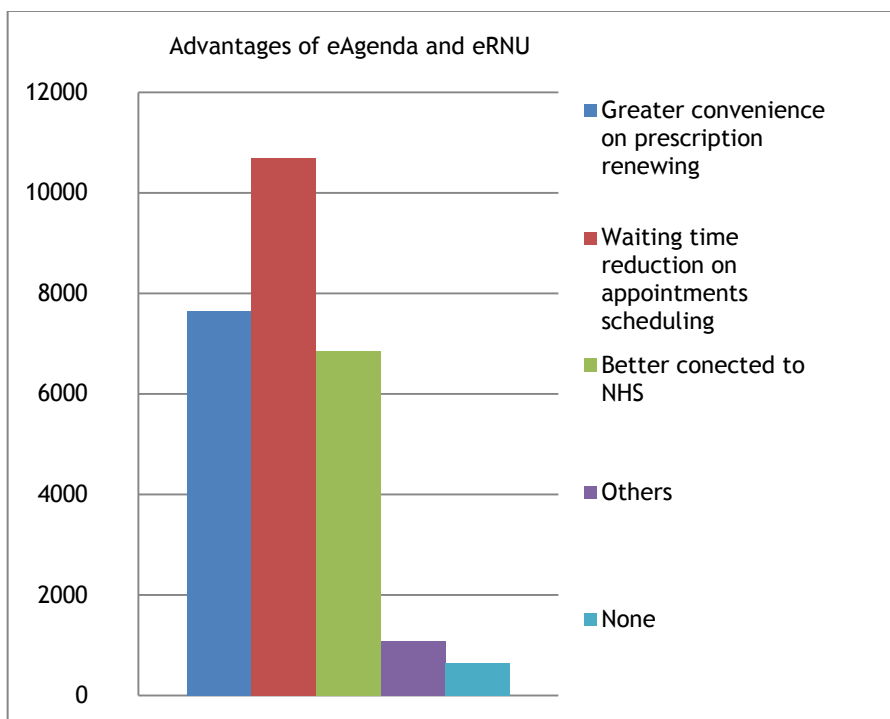
Table 8. Usefulness and importance of future functionalities of eAgenda and eRNU.1- Not very useful; 2- Not very useful but important; 3- Useful and Important; 4-Very useful and less important; 5- Very useful and important.

Future Functionalities	Usefulness and Importance					Mean	Mode
	1	2	3	4	5		
Blood Sugar registry	7,51%	9,73%	28,08%	16,97%	37,71%	3,6764	5
Blood Pressure registry	6,26%	7,94%	26,32%	18,08%	41,39%	3,8039	5
Weight registry	10,71%	13,21%	29,80%	18,20%	28,08%	3,3971	3
Minor Health problems registry	9,81%	10,99%	25,04%	19,25%	34,92%	3,5846	5
Psychological problems registry	10,02%	10,98%	28,44%	19,32%	31,24%	3,5078	5
Emergency contacts registry	4,51%	5,01%	19,64%	18,28%	52,55%	4,0935	5
Allergies registry	4,35%	5,02%	19,07%	18,19%	53,37%	4,1123	5
Vaccines alert	2,03%	2,47%	15,12%	17,09%	63,28%	4,3713	5
Alert to own's appointments	2,24%	3,03%	16,89%	19,64%	58,20%	4,2853	5
Alert to children's appointments	7,86%	3,38%	16,99%	17,82%	53,95%	4,0662	5
Body Mass Index registry	12,02%	15,27%	30%	18,42%	24,29%	3,2768	3
Health information	5,68%	9,53%	27,95%	20,76%	36,07%	3,7202	5

Table 9. Future functionalities' influence on health care delivery according to eAgenda and eRNU users. 1-Minor improvement; 5-Major Improvement.

Future Functionalities	Improvement on Health Care Delivery					Mean	Mode
	1	2	3	4	5		
Blood Sugar registry	8,00%	8,62%	24,17%	20,34%	38,86%	3,7344	5
Blood Pressure registry	6,64%	7,48%	23,09%	21,20%	41,59%	3,8361	5
Weight registry	9,76%	11,83%	28,30%	21,18%	28,94%	3,4771	5
Minor Health problems registry	8,96%	10,29%	25,41%	22,41%	32,93%	3,6004	5
Psychological problems registry	9,27%	10,15%	26,27%	22,13%	32,18%	3,5779	5
Emergency contacts registry	5,12%	5,81%	19,32%	20,87%	48,88%	4,0258	5
Allergies registry	4,57%	4,95%	18,79%	21,39%	50,29%	4,0788	5
Vaccines alert	2,98%	3,96%	17,60%	21,10%	54,36%	4,1989	5
Alert to own's appointments	3,43%	4,23%	18,51%	22,05%	51,77%	4,1448	5
Alert to children's appointments	8,42%	4,81%	17,84%	20,44%	48,49%	3,9577	5
Body Mass Index registry	12,63%	14,17%	29,48%	18,74%	24,98%	3,2926	3
Health information	8,48%	10,47%	27,43%	20,65%	32,98%	3,5919	5

Question 11 was related to eAgenda and eRNU advantages. The next chart shows the results.



Graphic 7. Advantages of eAgenda and eRNU.

Question number 12 asked if the user would like to be informed every time new functionalities were added to eAgenda and/or eRNU to which 63,78% answered “Yes”.

Question 13 was about the user’s availability to participate on new versions of eAgenda and eRNU. Most users answered “Yes” (38, 87%).

The last question asked users to make suggestions. A total of 19,95% users answered this question. The next table shows the most frequent suggestions in descending order.

Table 10. The most frequent suggestions made by inquired eAgenda and eRNU users.

The Most Frequent Suggestions Made By eAgenda and eRNU Inquired Users
To improve eAgenda operation
To ensure access to general physicians
To reduce the waiting time for an appointment scheduled through eAgenda
To enable users online communication with their physicians in order to get health information
To increase disclosure about eAgenda
To increase the number of appointments available on eAgenda
To improve prescription renewal
To ensure eAgenda encompasses every Health Institution
To make eAgenda more user friendly
To allow access to personal health records
To ensure user is noticed whenever his appointments are cancelled
To enable users to update their personal details
To enable users to schedule specialty appointments
To improve the training of the administrative staff
To enable users to choose their general physician
To enable users to e-mail test results to their general physicians

Discussion

VEPR is an online application that allows patients to voluntarily register their health problems, allergies, medications, among other functionalities. It is a personal and secure set of online tools that connects consumers to their Electronic Medical records and empowers them to manage their health, healthcare and healthcare costs⁽¹⁰⁾, placing patients at the centre⁽¹¹⁾⁽¹²⁾ of the healthcare system and improving access to healthcare delivery⁽¹³⁾.

According to some authors, PCEHR are designed on the principle that patients have the right to own and manage copies of their own medical information⁽¹⁴⁾⁽¹⁵⁾.

The Advisory Council on Health Infostructure in Canada, believes that VEPR is the means by which patient-centered healthcare delivery can be achieved⁽⁸⁾.

The report “Preventing Medical Errors 2007” from the Institute of Medicine, states that poor communication and exchange of medical information at transition points for patients from one provider to another are responsible for many medical errors and adverse drug events⁽¹⁰⁾.

By allowing better sharing of information between healthcare providers through the online availability of patient’s medical history, VEPR can reduce medical errors and improve communication between patients and physicians as it is available everywhere/anywhere on a need to know basis and if authorized by the patients or its caregivers.

It can also help patients to better understand their medical conditions and make more informed decisions.

According to the Sixth Report of Season 2006-07 of House of Commons Health Committee, the DCR, an EHR similar to VEPR, is a system potentially capable to improve care for patients with chronic and long term conditions⁽⁹⁾.

VEPR enables patients to have a more active role on the management of their own health.

Besides being efficient, it can also be cost and time effective by reducing the number of repeated exams and by allowing patients to enter some of the data into their medical records. Thus, it may reduce the workload of healthcare professionals⁽⁷⁾.

Drawbacks, like causing confusion and anxiety in patients, were reported to be minimal.

A study from 2003, exploring “patients’ experiences when accessing their on-line electronic patient records in primary care” showed that most patients would prefer to be told by a health professional first before receiving abnormal results or bad news electronically⁽¹⁵⁾.

Older patients’ acceptance of eHealth was studied in 2010, with 12 citizens in Sweden⁽¹³⁾. The findings showed that all of the inquired patients to a lesser or greater extent found on-line health guides and ePrescriptions a very good complement to existing healthcare services⁽¹³⁾. However, it must be noticed that Sweden has one of the highest rate of internet coverage in Europe and also all of the inquired patients had easy access to the internet⁽¹³⁾.

Although there is a natural difficulty in older generations to use IT and internet, this can be mitigated and will only have a tendency to dissipate in future. Also, this does not require having internet access at home, because hospitals can provide patients kiosks to enable them to sign up for their VEPR⁽²⁾.

On the other hand, the Department of Health and Ageing of the Australian Government proposes alternative means to access PCEHR through non-computer based access⁽¹⁶⁾.

Nevertheless more studies are needed to explore these findings.

VEPR can also be of great value for mental health service users.

According to a qualitative study dated 2008, mental health service users pointed out that their condition and their ability to give a credible account of themselves fluctuated and having it documented on a Summary Care Record might enable them to be taken seriously in an emergency rather than turned away as “stropky”⁽¹⁷⁾.

Health records exist for a long time in very different forms⁽¹²⁾, especially paper records like pregnant patients carry during pregnancy and infant patients during childhood.

VEPR for children already exists⁽¹⁸⁾⁽¹⁹⁾.

“MyChildren” is the integration of a PCEHR with Indivo (a software for health information exchange and communication)⁽¹⁴⁾, for the younger stratum of the population, to allow patients and their caregivers access to the functionality and convenience of a traditional patient portal as well as the portability and flexibility of a PCEHR⁽¹⁸⁾.

To ensure the privacy of the patients’ health information, a program is required to allow only the appropriately authorized individuals to access the VEPR and to save the records data in

the case of a technical breakdown occurs. Nevertheless, there must be the awareness that no data storing system can be considered 100% secure⁽⁹⁾.

Security and privacy issues are mentioned in almost all studies, however this is out of the reach of this paper and it will not be approached on this discussion.

According to “*Censos 2011- Resultados Provisórios*”⁽²⁰⁾, Portugal has a population of 10 561 614 habitants, approximately 52% are female and 48% are male.

The total amount of users registered on eAgenda and eRNU accomplishes almost 4% of Portugal’s population and in both, total and inquired eAgenda and eRNU users, female represent a larger percentage than what is expected from the results of “*Censos 2011- Resultados Provisórios*”⁽²⁰⁾.

This might be the mirror of what’s still the women’s role in family. They are still the family caregivers and it’s possible that they not only sign up for eAgenda and eRNU for their personal benefit but also for their close relative’s best interests.

The distribution of eAgenda’s users by region might also reflect national results from “*Censos 2011-Resultados Provisórios*”⁽²⁰⁾, which report a pattern of residents concentration in Lisbon and Oporto, “Lisboa e Vale do Tejo” and “Norte”, respectively.

In order to evaluate if the low compliance to eAgenda and eRNU services in “Alentejo”, “Algarve” and “Centro” is in fact because of the lower concentration of population or otherwise because of lack of awareness about these online services, more complete studies and surveys are required.

Data released from the Ministry of Health shows that the number of appointments scheduled through eAgenda in 2010, almost doubled in 2011.

Although this might translate a positive use of eAgenda and eRNU functionalities, under user’s suggestions, the appointments scheduling needs still to be improved.

A reduction on appointments scheduling is becoming obvious on December 2010 and 2011 in every region, as well as an increase every year around August also in every region, as illustrated in Graphic 4.

Explanations for these tendencies are so far unknown.

As mentioned above, more studies are required to understand the patterns of use of these services.

The results displayed about the inquired eAgenda and eRNU users point out that the typical eAgenda and eRNU user is female, married, completed High School, have children and age median 38, 5 years old.

3, 08% of the inquired female users were pregnant, therefore it might be interesting to add some functionalities to serve this group, like health information counselling related to pregnancy and alerts to predefined appointments and exams.

A study, dated 2009, about patients' access to their full health records, reports that pregnant patients used their paper records to plan their pregnancy and manage their health when they fell ill⁽²¹⁾.

It is not proved that pregnant patients use electronic records the same way they use paper records, however, new functionalities should be considered to serve this group and further studies to evaluate the respective convenience.

The commonest marital status among eAgenda and eRNU users is also reported on "Censos-2011-Resultados provisórios"⁽²⁰⁾ to be the major group of Portugal's population; therefore the most frequent marital status matches the expected.

The frequencies of the remaining marital status are quite different, apart from the option "Divorced", which is 6,69% for the inquired eAgenda and eRNU users and 7% for the overall population.

As regards to qualifications, next to "High School", 30,72% of the inquired eAgenda and eRNU users selected "Degree" being their qualification.

According to "*Censos2011-Resultados Provisórios*"⁽²⁰⁾, 25% of the population completed only the Primary School, 13% completed the Sixth Grade, another 13% completed High School, 16% completed Ninth Grade, 19% didn't attend school and 12% have a Degree.

These results are very different from those gathered through the questionnaire to eAgenda and eRNU users, which is explained by the fact that less qualified people feel less comfortable using technology.

Also a different result is the fact that both, the total and the inquired eAgenda and eRNU users, are younger than the overall portuguese population, confirming the natural difficulty in older generations to use IT and Internet.

In agreement with the previously stated is that Internet was selected as the most common source of awareness about eAgenda and eRNU.

It is the aim of this study to better adapt eAgenda and eRNU to its stakeholders needs and make it more user friendly for them, as requested on many suggestions. To achieve this goal it is important to understand how to reach the older generations and to enable them to sign up for eAgenda and eRNU so that they too may benefit from its advantages.

This paper represents the first step towards that direction but more studies are required to fulfill this goal.

Own and household's appointments scheduling were the functionalities of eAgenda most frequently scored as being "very useful", as well as having contributed to a major improvement on Health Care Delivery.

In contrast, eRNU and Prescription Renewing were scored mainly with the option "Don't know/Never used", however users have selected "greater convenience on prescription renewing" has the second great advantage of eAgenda. It seems that users have been experiencing some difficulties accessing this functionality and although potentially beneficial it's still not very operational, as it is in an early stage of development and there are many adjustments to be carried out.

Hopefully these corrections shall soon be done and users may benefit from its convenience.

Hence, these results prove that the actual functionalities of eAgenda and eRNU are welcome but need improvement to better serve portuguese population.

Concerning future functionalities, users are more attracted to adding "Vaccines Alert", "Allergies Registry", "Alert to Owns Appointments", "Alert to Children's Appointments", "Emergency Contacts Registry", "Health Information", "Blood Sugar Registry", and "Blood Pressure Registry".

The less selected functionalities were "Minor Health Problems Registry", "Psychological Problems Registry", "Body Mass Index" and "Body Weight Registry", but the overall scenario is the opening to new and more complete functionalities, which means that eAgenda is up to the portuguese population's expectancies.

According to these findings, adding these new functionalities would place eAgenda and eRNU closer to PRM system goals, as users consider them useful, important and a major improvement on healthcare delivery and therefore prone to meet their needs and satisfaction along with the previous functionalities.

The inquired users recognized that "waiting time reduction on appointments scheduling" was the greater advantage of eAgenda and eRNU, followed by "greater convenience on prescription renewing" and "Better connected to NHS".

Only 3,28% pointed no advantages.

This outlines that eAgenda and eRNU are suited to the overwhelming majority of users.

The inquired users also reported to be very interested in participate in future versions of eAgenda and eRNU. This interest is in line with the findings of the Health Committee in England, where the public is looking forward to cooperate on the elaboration of the SCR and DCR.

Besides asking for improvement of Agenda and eRNU performances, users' suggestions are surprisingly in accordance to the worldwide context of VEPR and its guidelines.

Users suggest they be enabled to enter data to their health records, to e-mail their physicians and to access their personal health records, which besides being in accordance to other studies it is exactly in what the Portuguese Ministry of Health wishes to transform eAgenda and eRNU.

Patients' ability to type in data to their health records is quite controversial and more studies are required to reach a liable conclusion.

So far, the abilities to register allergies, emergency contacts, blood sugar and blood pressure are being considered.

The implementation of a VEPR is a process to be made step-by-step and feedback from key-customers is vital, as well as that from primary co-customers, therefore in the future, it would be wise to promote a survey to physicians, first general practitioners and then specialists, to scan for their online services evaluation and suggestions.

Further studies to understand the patterns of use of appointments scheduling and studies to correlate sources of awareness and incidence of registrations by regions are fundamental to improve the online services availability.

Conclusions

From this paper results that Portuguese Ministry of Health is currently on the run towards Patient Relationship Management System starting with eAgenda and eRNU online services.

It is to be concluded that eAgenda and eRNU are well suited for the portuguese population as only 3,28% of the inquired users pointed eAgenda and eRNU services has not having any advantage.

The main advantage selected by users was “waiting time reduction on appointments scheduling”.

Nevertheless these services need improvement, as they are on preliminary phase and there are many adjustments to be made.

Users expect the Portuguese Ministry of Health to proceed on carrying out the improvements to the actual functionalities and to continue to enhance eAgenda and eRNU with new functionalities that enable them to be more active in their health such as e-mail their physicians, type in data on their personal health records, access their health records and choose their general practitioner.

More studies are still required to understand the patterns of use and to promote the online services so that more people, not only 4% of the overall portuguese population, may take advantage of their benefits, after all that is the ultimately goal of the NHS.

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Annexes

Inquérito para utilizadores dos serviços eAgenda e eRNU

O Inquérito para utilizadores dos serviços eAgenda e eRNU é composto por perguntas de resposta simples e rápida e tem como objectivo obter uma caracterização dos utentes dos referidos serviços e avaliar o seu grau de satisfação com os mesmos para melhor corresponder às suas necessidades e expectativas.

Este Inquérito foi elaborado no âmbito da realização de uma Tese para obtenção de Grau de Mestre pela Universidade da Beira Interior, em colaboração com o Ministério da Saúde.

Para sua maior comodidade, este Inquérito é anónimo, as respostas serão utilizadas apenas para fins estatísticos.

A sua participação é fundamental e faz a diferença!

Existem 13 perguntas neste inquérito

Dados pessoais

[A1] 1. Idade *

[A2] 2. Estado civil *

Por favor, selecione **apenas uma** das seguintes opções:

- solteiro/a
- casado/a
- vive com companheiro/a
- viúvo/a
- divorciado/a
- Outro

[A3] 3. Tem filhos?*

Por favor, selecione **apenas uma** das seguintes opções:

- Sim
- Não

[A4] 4. Se é mulher, diga se está grávida.*

Por favor, selecione **apenas uma** das seguintes opções:

- Sim, estou grávida.
- Não, não estou grávida.
- Não sou mulher.

[A5] 5. Habilitações Literárias *

Por favor, selecione **apenas uma** das seguintes opções:

- 1ª classe
- 2ª classe
- 3ª classe
- 4ª classe
- 9º ano
- 12º ano
- Bacharelato
- Licenciatura
- Mestrado
- Doutoramento
- Outro

Utilização dos serviços eAgenda e eRNU

[B1] 6. Como é que teve conhecimento dos serviços eAgenda e eRNU? *

Por favor, selecione **todas** as que se aplicam:

- televisão
- cartaz/panfleto
- funcionários/administrativos da Unidade de Saúde Familiar/Hospital
- Médico/a
- Enfermeiro/a
- Internet
- Junta de Freguesia
- Outro:

[B2] 7. Das seguintes funcionalidades dos serviços eAgenda e eRNU, de 1 a 5, como classifica a sua utilidade? (sendo 1=pouco útil e 5=muito útil) *

	não sei/nunca usei	1	2	3	4	5
Agendamento de consultas para o próprio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agendamento de consultas para elementos do agregado familiar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pedidos de renovação de prescrição de medicamentos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consulta do Registo Nacional de Utentes (RNU)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Por favor, selecione uma resposta apropriada para cada item:

[B3] 8. Acha que a utilização dos actuais funcionalidades dos serviços eAgenda e eRNU contribui para uma melhoria dos cuidados de saúde que lhe são prestados? Classifique de 1 a 5, sendo 1 o que contribui menos e 5 o que contribui mais. *

Por favor, selecione uma resposta apropriada para cada item:

	não sei/nunca usei	1	2	3	4	5
Agendamento de consultas para o próprio	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Agendamento de consultas para elementos do agregado familiar	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Pedidos de renovação de prescrição de medicamentos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Consulta do Registo Nacional de Utentes (RNU)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[B4] 9. Das seguintes funcionalidades quais gostaria de ver adicionadas aos serviços eAgenda e eRNU?(1=pouco útil, 2=pouco útil mas importante; 3=útil e importante; 4=muito útil e pouco importante; 5=muito útil e importante) *

Por favor, selecione uma resposta apropriada para cada item:

	1	2	3	4	5
Registo do nível de açúcar no sangue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo da Pressão arterial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo do peso	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo de problemas de saúde que não necessitaram de ida ao médico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo de problemas do foro psicológico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo dos seus contactos em caso de emergência	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo das suas alergias	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alerta de vacinação	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alerta de consultas com o seu médico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alerta de consultas dos seus filhos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cálculo do seu índice de massa corporal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informação de saúde	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[B5] 10. Acha que a adição das seguintes funcionalidades aos serviços eAgenda e eRNU poderá contribuir para a melhoria dos cuidados que lhe são prestados? Classifique de 1 a 5, sendo 1 o que menos contribui e 5 o que mais contribui.*

Por favor, selecione uma resposta apropriada para cada item:

	1	2	3	4	5
Registo do nível de açúcar no sangue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo da Pressão arterial	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo do peso	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo de problemas de saúde que não necessitaram de ida ao médico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo de problemas do foro psicológico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo dos seus contactos em caso de emergência	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Registo das suas alergias	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alerta de vacinação	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alerta de consultas com o seu médico	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Alerta de consultas dos seus filhos	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cálculo do seu índice de massa corporal	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Informação de saúde	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

[B6] 11. Seleccione entre as seguintes opções aquelas que considera vantagens dos serviços eAgenda e eRNU. *

Por favor, seleccione **todas** as que se aplicam:

- Redução do tempo de espera para uma consulta com o seu médico
- Maior comodidade nos pedidos de renovação de prescrição de medicação
- Melhoria da sua relação com o Serviço Nacional de Saúde
- Não reconheço nenhuma vantagem
- Outro:

[B7] 12. Gostaria de ser informado sempre que novas funcionalidades sejam adicionadas aos serviços eAgenda e eRNU? *

Por favor, seleccione **apenas uma** das seguintes opções:

- Sim
- Não

[B8] 13. Gostaria de participar no desenvolvimento de novas versões dos serviços de saúde on-line-Portal do utente? (Seria contactado pelo SNS através do seu email para este efeito; poderia ser solicitada a sua opinião para validar ideias, textos ou ecrans de aplicações informáticas; poderia ser convidado a aparecer num evento de discussão com outros utentes/utilizadores).*

Por favor, seleccione **apenas uma** das seguintes opções:

- Sim
- Não

[B9] 14. Sugestões para melhorar os serviços eAgenda e eRNU.

Por favor, escreva aqui a sua resposta:

Grata pela sua preciosa atenção!

Os melhores cumprimentos

Submeter o seu inquérito