

## Innovations in Primary Health Care: the use of communications technology and information tools to support local management

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**Abstract** *Social media has been used in different contexts as a way to streamline the flow of data and information for decision making. This has contributed to the issue of knowledge production in networks and the expansion of communication channels so that there is greater access to health services. This article describes the results of research done on 16 Information Technology and Communications Observatories in Health Care - OTICS Network in Rio - covering the Municipal Health Secretariat in Rio de Janeiro which supported the integration of primary health care and promoted the monitoring of health. It is a descriptive case study. The results relate to the support given to employees in training covering the dissemination of information, communication, training and information management in primary health care. This innovative means of communication in public health, with very little cost to the Unified Health System (SUS), allowed for a weekly registering of work processes for teams that worked in 193 primary health care units (APS) using blogs, whose total accesses reached the seven million mark in mid-2015. In the future there is a possibility that distance learning tools could be used to assist in training processes and in the continuing education of professionals in family health teams.*

**Key words** *Communications in health, Primary health care, Family health, Information technology*

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## Introduction

The use of new information technology and communication tools in health has been increasing over the last decades with the advent in the use of email and social media. These innovations have helped to streamline the flux of data and information for decision makers in management. It has also contributed to the production of knowledge in networks and the widening of communication channels so that there is greater access to health services<sup>1,2</sup>. Various experiences that have involved combining and integrating the use of digital tools are now being consolidated through the “Public Health Observatory”. They are being enhanced and are regularly updated.

Ferreira<sup>3</sup> gave a better and modern definition of a Public Health Observatory by stating:

*[...] apart from being centers that conduct analysis, they are also unhindered structures for receiving communications (which assist in informing, supporting and evaluating the taking of decisions and for intervening at local levels). They are also useful for issues outside of the health care sector (advocating health care and influencing public policies that have the most amount of impact on health).*

Having conducted a revision of the literature written by this author, she notes that in general there are national and regional structures that were created as a result of strategic decisions taken by key managers that held government positions. They are financed, in part or completely, by the Government. When they are created to cover regions, they work with the expressed function of being “networks” and form part of the daily work that is undertaken. They allow for observation and critical analysis in the progression of state health care indicators in a continued and systematic way. These indicators cover the population in general or a specific sub-population and it brings together multidisciplinary teams and specialists in specific areas with the view to identifying and analyzing realities, contexts, facts and processes.

The historical analysis of the Health Care Observatories in central and south America revealed that there was the option to focus on the management of health care professionals or the health of those that work in health care<sup>4,5</sup>.

In Brazil, a possibility raised by Pinto<sup>6</sup> who was one of the authors to bring this multifaceted approach, referred to the use of a group of indicators to monitor the health system and service. The monitoring includes: geographical space

from the micro to the macro, a census conducted in the sector, micro-areas for family health care teams, boroughs, districts, municipalities, and any other regions of interest. These demographical indicators which cover socioeconomics, mortality, morbidity relating to identified risk factors and associated coverages and resources (physical, human and financial) all can be instrumental for use in research forms<sup>7</sup>. The above areas when analyzed, help in understanding and interpreting the potential for health care indicators. The approaches can, by their very nature, be long and transversal.

In Europe the approach has been to compare health services and systems particularly looking at the communication process in primary health care. Attention is also given to social, economic, environmental, mortality and inequality indicators in health<sup>4</sup>.

### Health Observatories: Health Care in Europe

The European Observatory for the Systems and Policies in Health is coordinated by the Regional Office for the World Health Organization (WHO). It is a partnership which includes the following countries, regions and bodies: Austria, Belgium, Finland, Ireland, The Netherlands, Norway, Slovenia, Spain, Sweden, the United Kingdom, the region of Veneto in Italy, The French National Union for Safety and Security in Health (UNCAM), the European Commission, the European Bank for Investment, the World Bank, the *London School of Hygiene & Tropical Medicine* (LSHTM) and the WHO. It promotes good health based on evidence from an all-encompassing and rigorous analysis of the dynamics of the health systems in Europe. This directly involves public sector managers. It acts in partnership with researchers, research centers, governments and international organizations. Its values include the following: research done for the benefit of the population, excellence, integrity, accountability and a guarantee that the analysis of the data that is carried out will not discriminate against any social, ethnic, cultural and religious groups<sup>8</sup>. It supports and finances comparative research done between different health care systems in Europe and developed countries outside of Europe which was the case in the classic example of Saltman et al.<sup>9</sup>. They analyzed primary health care and organizations in this area with other health systems with a view to improving the results in a country. They also sought to understand how

new technology could be integrated at a certain level in the health system.

Hemmings & Wilkinson<sup>10</sup> described the National Network of Regional Observatories in Public Health created in England, in 1999, whose objective was to reinforce the availability and use of information about health at a local level in every regional health system in the country. Initially, the Observatories were connected with universities in order to provide academic rigor to the work. Its main task would be to support local bodies in: monitoring health and illnesses, identifying lacunas in the information on health, giving guidance on recommendable health methods and evaluating the impact of health inequalities. It would also aim to trace and detect, early on, possible future problems in public health<sup>11</sup>.

This Observatory Network based itself on the first Observatory that had been in existence when the government decided to create a National Network: the *Liverpool Public Health Observatory, created in the 1990's*. This Regional Observatory can be analyzed in our present time and it produces the most amount of information in this area which is subsequently disseminated in England. It also produces tools for conducting scientific research in public health<sup>12</sup>. Some of the areas that have been studied include: family planning, fertility and abortion, coronary diseases, services to rehabilitate drug users and alcohol abusers, asthma and environmental pollution, environmental causes of death or incapacity to work, tuberculosis and poverty.

In 2014, there were twelve Regional Observatories in Public Health in the United Kingdom. Amongst these, nine coordinated their activities together in England based on a work plan that contain both national and local objectives. They produce information, data and intelligence for decision making processes. This is for managers working in health care to help populations in specific areas. These structures moved to being integrated in the Department for Health in the Government and from the 1st of April 2013 it would be managed by one of the executive agencies of the Health Ministry - *Public Health England*.

The Health Observatory for the City of London<sup>13</sup> produced information on the 7.8 million inhabitants that lived in this city and it developed training programs for health care professionals from all of the Regional Observatories. It also acted in partnership with national government agencies. It leads the way in thematic areas such as inequalities in health and studies on smoking.

It also serves as a center of excellence for all the other Regional Observatories.

The *Yorkshire and Humber Public Health Observatory* (YHPHO), that was created in 2004, also produces information, data and intelligence to support the decision making process for managers in health care for specific populations in a given area. It conducts its work through partnerships with the following: the NHS, local health and safety authorities, researchers and national agencies. The thematic areas that it works in includes: diabetes, the health economy, and the health of children, teenagers and women. It is physically located at the University of York on campus<sup>14</sup>.

On the other hand both the *Eastern Region Public Health Observatory* (ERPHO) and the *North East Public Health Observatory* (NEPHO) work in the following thematic areas: infectious diseases and environmental risks (such as radiation and risks in relation to chemicals and poisoning)<sup>15,16</sup>.

In 1999 the Portuguese Observatory for the Health System (OPSS) was created and was connected with the National School for Public Health at the New University of Lisbon in Portugal. Sakellarides<sup>17</sup>, who coordinated the creation of this Observatory, stated at the time that “the creation of a Portuguese observatory for the health system will allow for continuous, prospective, interactive and pedagogical analysis of the development of the Portuguese health system. It will provide a valuable contribution from investigative and teaching institutions in the country to overcome the current situation”.

Barbosa<sup>18</sup> analyzed the OPSS and highlighted the contribution it made to the European Observatory for Health Systems of the WHO in promoting the creation of inter-institutional networks that analyze certain areas. Aside from providing external contributions, this observatory had as one of its objectives to analyze the prospects of Portugal's health system. It would publish periodically, conjuncture reports on its institutional page such as the “Spring Report 2013”<sup>19</sup>. Aside from this, the Observatory has been contributing, throughout the years, to the analysis of the Portuguese National Health System which is a part of the Portuguese Health Ministry. This has been done through direct and indirect administrative bodies in which can be found five regional health administrations and public companies<sup>20</sup>.

The Regional Health Observatory for Alentejo was created by the Regional Health Adminis-

tration/Health Ministry to follow and monitor the complaints, suggestions and thanks given by health care service users of the national health system. It was also to follow decisions made, that related to it. It does the following: it makes available to the public information on public health, it publishes indicators that allow for the evaluation of service users' satisfaction and participation in relation to the care that they have received and it develops training programs for health care professionals in the region. However on closer inspection of their Portal it was noted that no use was made of local databases in their own studies or in partnership with other bodies. This indicated that it is an "Observatory" that does not produce data from primary or secondary sources to be analyzed. It limits itself to making available material and other institutional information from local health administrations and its serves as a large virtual library in local health<sup>21</sup>.

The Regional Health Observatory in Lisbon and the Tejo Valley covers an area called "Greater Lisbon". According to Quitério et al.<sup>22</sup> "Greater Lisbon" is made up of nine councils and the Lisbon Council has 24 parishes. In the area of health, this Council in 2012 was re-divided into three Health Care Center Groups (ACES) with eighteen health units: North Lisbon (with four health centers), Central Lisbon (with nine health centers) and West Lisbon and the Oeiras Council (with five health centers). In terms of comparisons of the geographical administrative divisions that exist in Brazil, the "Greater Lisbon" area would correspond to a "Metropolitan Region". The Lisbon Council would correspond to a "municipality" and every parish would be equivalent to a "borough" or "district" (sub-division of the municipality).

This Observatory was created by the Local Regional Health Administration/Health Ministry to provide support in reaching the Millennium Development Goals in thematic areas such as: nutrition, infant health, maternity health, reproductive health, immunization, HIV/AIDS, tuberculosis and water sanitation. The researched indicators included: mortality, the burdens caused by illnesses, transmissible and non-transmissible diseases, risk factors, environmental health, violence and equity. Its objective included publishing a tranche of information through the integration of existing knowledge on risk factors and their effects on health. This would allow for a better understanding of problems and an analysis of health situations in the health center groups. With this information, support would be given

in the drafting of a Regional Health Plan which would improve the communication of risks to populations. It would also lead to the integration of knowledge and innovation, contributing to the social and economic development of the country<sup>23</sup>. One of the main contributions was the consolidation of the "Profile Report on the City of Lisbon and its outskirts"<sup>24</sup> and the "Health Picture in Lisbon"<sup>22</sup>.

The Regional Health Observatory for the Isle of France (*Observatoire Régional de Santé Île-de-France*) was created in 1974 with the support of the Mayor's office and subsequently became the Technical Department for the Development and Urbanization Institute for the Paris Region (IAURP). The region of the Isle of France is composed of eight departments. Many times the region is confused with the Parisian Agglomeration whose area accounts for only 20% of the Isle of France region. However there is a 90% concentration of the population in this region.

Its goal is to support the local management of public health care receiving finances from a regional council and the Regional Health Agency in the Isle of France<sup>25</sup>. This observatory observes, follows, analyzes and informs on health issues. On an annual basis it drafts its work plan with its local partners, including scientific institutions and financiers. It participates in the drafting of different regional public health plans. It also does the following: carries out studies in relation to local demand, analyzes health problems relating to regional programs and it seeks to understand social determinants and inequalities in areas that it covers. It conducts studies on people's perceptions and behavior in relation to prevention. It follows the development of trends over a period of years.

Aside from the above it studies various life cycles and conducts analysis on morbidity and mortality. It also conducts analysis into behavior with reference to the use of drugs, tobacco, alcohol and life styles (covering nutrition, sexuality, and contraception) and environmental health. Its methodologies include: qualitative and quantitative approaches, cross-referencing and evaluating data, carrying out surveys and putting together socio-sanitary and geo-referencing indicators for events<sup>25</sup>.

Other European countries also utilize similar strategies, some of which cover the national ambit whilst others are regional. In Spain the National Health Observatory System is an organ dependent on the Health Ministry and it conducts continuous analysis of the National Health

Care System through studies where comparisons are made with health care in the Spanish autonomous communities in relation to the organization. The studies also cover the provision of services and the management of sanitation. It also drafts an Annual Report on the National Health System<sup>26</sup>. In the regional ambit we can highlight the Public Health Observatory of Cantabria (OSPC) which was created in 2006 as an information, analysis and investigation unit on the health situation of this region located at the extreme north of Spain<sup>27</sup>. Its ultimate aim is to produce relevant information for policy makers, managers, researchers, health care professionals and the public in general in order to improve policies, programs and services. These policies, programs and services should meet health needs in both an equitable and efficient manner and should reduce health inequalities in Cantabria<sup>27</sup>.

The Health Observatory for Asturias (OBSA) - an autonomous community and a province of Spain which is also located in the extreme north of the country - is a project developed by the Director-General for Public Health in the Asturias Government in collaboration with the *Population Health Institute* of the University of Wisconsin which “deals with generating information, conversations and actions”<sup>28</sup>. One of the objectives of the Observatory, that was founded in May 2011, is to provide information on the health situation in the region and its municipalities through the use of succinct performance indicators in health (covering the health system, management, socio-economic factors and the environment) and covering its performance record for health care<sup>28</sup>.

Following from the above brief revision of the literature on some of the most important observatories in public health in Europe, we can highlight some possible areas for analysis that have been utilized in various countries and regions:

- 1) monitoring the health status of populations and sub-populations and identifying their health needs,
- 2) integration of the various databases of interest in health into one large repository for future analysis ('big data'),
- 3) carrying out epidemiological monitoring of transmissible diseases and non-transmissible diseases in the ambit of environmental health,
- 4) monitoring and evaluating the effects and impacts of the performance of the health programs and services with a view to seeing improvement in health and a reduction in inequalities in health,

- 5) carrying out and supporting operational and applied research utilizing the capture and collection of data which includes data from the internet,

- 6) sharing, in networks, the production of knowledge that is generated,

- 7) proposing adequate recommendations and providing information to target audiences (*public health reporting*),

- 8) the dissemination and periodic updating of results on relevant social media platforms in the required format,

- 9) utilizing secondary data sources and other databases produced by the National Institute of Statistics, Health Ministry, and specific regions for each country.

Therefore the purpose of this paper is to describe the results obtained based on the implementation of the local Observatory Networks by the Municipal Secretariat for Health in Rio de Janeiro covering ten planning areas in health in the city.

#### **The Network of Observatory Stations for Health services in the Planning Areas in the City of Rio de Janeiro**

The Network of “Observatory Stations for Information Technology in Health Care in the City of Rio de Janeiro” (OTICS-RIO) is a partnership with the Municipal Secretariat for Health in Rio de Janeiro (SMS-RJ) and various academic institutions. The Network has the vision of “being a reference for SUS in Rio de Janeiro for strategic training projects and for the provision of support in the Sub-secretary’s network that covers Primary Health Care, Monitoring Health and the Promotion of Health - SUBPAV”<sup>129</sup> – for ten planning areas for health in the city. Its mission is to promote the integration between extension actions and health education on primary health care services, the monitoring and promotion of health and in particular to support the actions in the Core Support Networks for Family Health (NASFs). Its main values are: information in real time, interactivity, professionalism, simplicity, transparency, solidarity in networks, innovation, and focusing on results. The Network is made up of sixteen stations divided amongst ten planning areas in the city of Rio de Janeiro. Its implementation consolidates what is produced by the Family Health Teams on social media through blogs with periodic maintenance by health care professionals who have been doing this work since 2011. It also allows for the analysis of strategic

consolidated indicators through using the electronic patient reports used in primary health care known as – “Tabnet-Ficha-A”, launched through the Network<sup>30</sup>. Also the whole process of outsourcing is mapped by health teams covering families and micro-areas. They were built by community health agents and are validated by the other members in the team as well as other local managers<sup>31</sup>.

The physical spaces for the stations – “the Information Technology and Communication Observatories for Health services” – in the city of Rio de Janeiro came about as a response from the SMS-RJ to the need for quality welcoming structures having the capacity for 27 student terms on the Training Program for Local Agents that monitor health (PROFORMAR) from Fiocruz, in 2009. This large scale training program which had 1,392 places that were initially offered, concluded its training program in 2011. The current state of play is that the Station consists of a physical space in a health municipal unit. It has: an auditorium, a teaching/reading room, an information technology laboratory and an academic secretary.

With these spaces there was the creation of a virtual space – a Portal – that had two implemen-

tation phases: one that started in 2010 with academic support and the other started in 2011. In the second phase the Stations were organized to form a station portal called Network OTICS-RIO (Figure 1) which was developed by SMS-RJ to deal with the increasing expansion of the health units for each one of the ten APs.

This new directive requiring the maintenance of the Network by SMS was essential for ensuring daily updates of their social media in the AP and for decentralizing actions for the planning areas. The professionals that work in the stations in the “local Networks” started to train and increase their knowledge that had been developed in workshops with professionals from the Family Health Teams in their bloggers’ training at APS. However the partnership with the teaching staff and researchers that had been in place since 2010 (the first phase of the Project) was maintained as a way of enriching the blogs adding different perspectives and innovations for primary health care. Nevertheless from 2011 the Network switched to being “real” (physical spaces called “Stations”) and “virtual” (a portal for the network with blogs, twitters, and Instagram for every station) presenting solutions and know-how in the form of continuous education and in-

The screenshot shows the website for Rede OTICS RIO. At the top, the logo 'Rede OTICS RIO' is on the left, and the title 'REDE OTICS-RIO Observatório das Tecnologias da Informação e Comunicação em Saúde' is in the center. Below the title is a navigation bar with 'Home', 'História', 'A Rede', and 'Projetos'. To the right of the navigation bar are social media icons for Facebook, Twitter, YouTube, and Instagram. On the left side, there is a sidebar titled 'Blogs das Estações' with a sub-section 'OTICS-Rio Coordenação' and a list of 17 stations: OTICS AP 1.0 - Centro, OTICS AP 1.0 - Cidade Nova, OTICS AP 2.1 - Catete, OTICS AP 2.1 - Rocinha, OTICS AP 2.2 - Tijuca, OTICS AP 3.1 - JD América, OTICS AP 3.1 - Penha, OTICS AP 3.1 - Manguinhos, OTICS AP 3.2 - Lins, OTICS AP 3.3 - Itrajá, OTICS AP 3.3 - Madureira, OTICS AP 4.0 - Barra, OTICS AP 5.1 - Bangu, OTICS AP 5.1 - Padre Miguel, and OTICS AP 5.2 - Pedra. The main content area has a heading 'O que é OTICS-Rio?' followed by a paragraph: 'O Observatório de Tecnologia de Informação e Comunicação em Sistemas e Serviços de Saúde da cidade do Rio de Janeiro (OTICS-RIO) é um ambiente híbrido que reúne soluções e conhecimentos para a educação permanente e continuada em saúde. No OTICS, metodologias e tecnologias de informação úteis à gestão e tomada de decisão estão reunidas para promover a construção compartilhada de conhecimento entre profissionais de saúde, pesquisadores, gestores e sociedade civil. A versatilidade da OTICS-Rio permite ampliar a inteligência institucional ao refletir sobre experiências da prática dos profissionais de atenção primária, vigilância e promoção da saúde, por meio de Estações Observatório.' Below this is a 'Visão:' section with a quote: 'Ser a referência para os projetos estratégicos no processo de formação dos Profissionais da atenção primária em Saúde do Sistema Único da Saúde.' To the right of the quote is the Rede OTICS RIO logo. On the far right, there is a sidebar with a 'Tecnologia TABNET DATASUS' graphic and a timeline from 2012 to 2014. The 2014 section lists: 'Pesquisa de Opinião', 'CEMAPS RIO', 'Prontuários da APS', 'Produção Ambulatorial de Procedimentos', 'Ciclo de Debates', 'TCCs de Cursos Cursos em parceria com instituições acadêmicas', and 'CEMAPS RIO'.

**Figure 1.** The Stations Network for the Observatory for Health services in Planning Areas in the City of Rio de Janeiro, available at <http://www.redeoticsrio.org/>.

tegration with primary health care actions. This also included the monitoring and promotion of health and allowing the users (from different places) to get a glimpse of the day to day work of the Family Health Teams in the city of Rio de Janeiro. Finally, according to Ramalho<sup>32</sup> “social media gives a voice to millions of people to express their opinions and experiences to a global audience at zero cost or close to this”.

### Results of the use of social media in primary health care

In city of the Rio de Janeiro, 860 Family Health Teams and 346 Oral Hygiene Teams were active in May of 2015, according to the data from the National Register of Health Establishments (CNES) from the Health Ministry<sup>33</sup>.

Through 2014 of the stations were institutionalized by the SMS-RJ based on their register from the CNES. They also started to do educational activities for the promotion and the monitoring of health. On a monthly basis they were then informed of their SIA-SUS code which needed to be shown at outpatients units. In 2014 15,782 promotion and monitoring actions were undertaken on health (Table 1):

From 2011 to 2013 the main actions that were undertaken and the results that were obtained can be grouped into three main starting objectives, that were planned as part of the Network concept between 2009-2010: (i) support in the training of SUS staff, (ii) support in providing information on health, (iii) support in the organization and management of information in primary health care (Chart 1).

Based on the development of the Network team that was decentralized and placed in all of the planning areas, it was possible to consolidate 193 semi-institutional blogs that were created after training workshops for bloggers had been conducted in the primary health care units on at the stations. A free hosting tool was used on the internet. Approximately seven million accesses to the blogs were made up until May 2015 (Table 2). The fact that the residents in the areas that were covered in every community accessed the blogs, is an indirect indication of the communication carried out on a daily basis between the public bodies and the citizens. Social media allows all types of information to be made available covering: opening hours, telephone contact details, details of the catchment area, and a list of health actions/activities in every Municipal Center for

**Table 1.** Stations that are a part of the Observatory Network and productions which are registered Municipal Secretariat for Health, Rio de Janeiro, 2014.

Nº	AP	Nº at CNES	Stations that are a part of the Network*	The creation date for the Stations	Registered Productions (SIA-SUS 2014)
1	1.0	7243707	Centro	27/01/2012	1.252
2	1.0	7455380	Cidade Nova**	10/12/2013	563
3	2.1	7243715	Catete	29/09/2012	754
4	2.1	7243723	Rocinha	27/07/2010	975
5	2.2	7243731	Tijuca	18/10/2010	794
6	3.1	7243758	Jardim América	22/10/2010	522
7	3.1	7243766	Penha	16/04/2011	3.453
8	3.1	7258356	Manguinhos	09/09/2011	604
9	3.2	7243774	Lins de Vasconcellos	30/07/2010	773
10	3.3	7243782	Irajá	10/12/2010	613
11	3.3	7243790	Madureira	08/12/2012	1.100
12	4.0	7243820	Barra da Tijuca	27/07/2010	598
13	5.1	7243839	Bangu	28/07/2010	1.226
14	5.1	7243847	Padre Miguel	29/01/2011	978
15	5.2	7243855	Pedra de Guaratiba	28/07/2010	762
16	5.3	7243863	Santa Cruz	18/10/2010	815
Total					15.782

Source: SIA/SUS, available at: [http://www0.rio.rj.gov.br/cgi-bin/dh?sia/definicoes/producao\\_2008.def](http://www0.rio.rj.gov.br/cgi-bin/dh?sia/definicoes/producao_2008.def), access in May 2015.

\* The name of every station with the borough in which it is located next to the municipal health unit and their description can be seen at: <http://www.redeoticsrio.org/>. \*\* The Station was opened in December 2013 and it only started its work from July 2014.

**Chart 1.** Network of Stations OTICS-RIO: objectives, actions and main results achieved, Municipal Secretariat for Health, Rio de Janeiro, 2011-2013.

Objective	Description
<p><b>01: support for the training of SUS staff</b></p>	<p>Action: Qualifications from the network of SUS staff in primary health care (APS), in particular providing support at their physical spaces with activities from the Core Family Health team (NASF)</p> <p>Results: a) 1,195 meetings/workshops/courses/training groups/seminars carried out in the presence of 44,894 people circulating in the stations between 2011-2013. b) Support for specialist courses, professional Masters, updating skills courses and technical courses for Community Health Workers and Local Health Monitoring Agents</p>
<p><b>02: support in the dissemination of data and communication on health</b></p>	<p>Action: Production and availability of multiple channels of communication - twitter network, primary health care blogs, audio-visual productions, virtual areas for collaboration on the environment with downloads and uploads, that aid in the exchange of information and communication in health during the work process for the Family Health Teams. This also covers other areas of interest such as monitoring and promoting health.</p> <p>Results: a) 2,7 million accesses to the Stations' Blog Network (meaning 600,000 international accesses from the United States, Portugal, Germany, Italy, England and France). From 2013 gadgets allowing for translations to other languages to be done for every blog, was included in the Station Network b) 190 blogs covering the Family Health Strategy support by a similar number to the primary health care units c) 152 short films on thematic areas (available at the YOUTUBE account @SMSDCRJ @OTICSRIO) d) 48 twits of support for actions promoting health, vaccination campaigns and other specific health days. e) RIO-SUS GUIDE (10 volumes, with general data on every primary health care unit in a directory containing their addresses and other information.)</p>
<p><b>03: support in the organization and management of information in the primary health care units</b></p>	<p>Action: Production and organization for the monitoring and evaluation of performance indicators for the primary health care units, in particular covering the electronic patients' records (socio-demographical indicators and it covers morbidity).</p> <p>Results: a) Books with statistics and maps for the primary health care units (CEMAPS-RJ, 10 volumes, with maps for micro-areas/teams/units and information on all of the Family Health Teams) b) Monitoring of the quality of how the registers are filled in, which is Form A (the "Tabnet" tool for appointments) from the Family Health Teams ("management of the list of duplicate registers"). c) Research on opinions with staff from the Municipal Centers for Health and Family Clinics (n=13.973, 69.1% of the total, collection of data online in five days)</p>

Source: All of the above was done based on initial actions that were approved by the SMS-RJ in 2010 and the results were observed between 2011-2013.

Health and Family Clinics at the Primary Health Care Units.

The blogs try to encourage good practices for communication and the provision of infor-

mation to the population so that the minimum content is placed in categories and there is a standard layout and format. This is done through a blog competition for Family Health in SUS that



**Table 2.** Distribution of the primary health care units per year covering their opening, implementation of the Family Health Strategy, the number of teams and the number of accesses to unit blogs, according to the Planning Areas for Health - Municipal Secretariat for Health, Rio de Janeiro, May 2015.

Type of Unit	AP/Name of Unit	Year when the Units were Opened	Year when ESF was Implemented	Nº of ESF	Nº of ESB	Nº access to blogs
	<b>Total</b>			860	346	6.905.281
	AP 1.0			48	13	309.303
CF	Dona Zica	2010	2010	5	2	10.394
CF	Sérgio Vieira de Mello	2011	2011	6	2	78.468
CF	Nélio de Oliveira	2014	2014	3	0	162
CMS A	Fernando Antonio Braga Lopes	2011	2011	6	3	65.345
CMS A	CSE Lapa	2001	2011	2	0	20.662
CMS A	CSE São Francisco de Assis	2011	2011	3	0	5.752
CMS A	Turano	2000	2011	2	0	23.713
CMS A	Salles Netto	2014	2014	6	0	2.625
CMS B	Ernesto Zeferino Tibau Jr	1950	2012	3	1	14.708
CMS B	Manoel Arthur Villaboim	1933	1999	2	2	45.241
CMS B	Oswaldo Cruz	2007	2012	1	1	15.421
CMS B	Marcolino Candau	1947	2011	3	0	8.757
CMS B	José Messias do Carmo	1970	2012	4	1	8.413
CMS B	Ernani Agrícola	1970	2012	2	1	9.642
	AP 2.1			53	17	846.810
CF	Santa Marta	2009	2009	3	1	261.278
CF	Cantagalo Pavão - Pavãozinho	2009	2009	3	1	39.355
CF	Maria do Socorro Silva e Souza	2010	2010	11	4	81.862
CF	Rinaldo de Lamare	2010	2010	8	3	51.651
CMS A	Dr Albert Sabin	2011	2011	6	2	72.894
CMS A	Dr. Rodolpho Perissé	2007	2007	3	2	13.814
CMS A	Vila Canoas	2002	2002	1	0	45.364
CMS A	Chapéu Mangueira-Babilônia	2010	2010	2	0	19.000
CMS B	Dom Helder Câmara	1975	2011	3	1	123.820
CMS B	João Barros Barreto	2004	2010	6	1	48.357
CMS B	Píndaro de Carvalho Rodrigues	1976	2011	2	1	24.777
CMS B	Manuel José Ferreira	1976	2010	5	1	64.638
	AP 2.2			29	7	167.235
CF	Recanto do Trovador (antigo Parque Vila Isabel)	2014	2014	4	1	357
CMS A	Nicola Albano	1960	2010	2	1	39.656
CMS A	Professor Julio Barbosa	1988	2011	2	1	14.347
CMS A	Carlos Figueiredo Filho	2000	2000	3	2	19.503
CMS A	Casa Branca	2002	2002	1	0	18.934
CMS A	CMS Gerontologia Miguel Pedro	2014	2014	1	0	-
CMS B	Heitor Beltrão	1964	2012	8	1	36.767
CMS B	Maria Augusta Estrella	1968	2011	4	1	33.841
CMS B	Helio Pelegrino	2014	2014	4	0	3.830

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was launched by the Municipal Secretariat for Health and which identified the best blogs in different categories: (1) The best schedule available in real time, (2) Find out more about us by ACS, (3) How do I do...? (4) The best photograph, (5) The best short video film, (6) The Rio Academic Program, (7) Youth Protagonist, (8) The best

photographic coverage, (9) The best audio-visual coverage, (10) The best content (11) The best interactivity, (12) The best creativity (13) Health in Schools, (14) The best integration between teaching-service-community, (15) The best integration between monitoring and Family Health and (16) The best blog.

Table 2. continuation

Type of Unit	AP/Name of Unit	Year when the Units were Opened	Year when ESF was Implemented	Nº of ESF	Nº of ESB	Nº access to blogs
	AP 3.1	2010		141	58	1.302.492
CF	Zilda Arns	2011	2010	12	6	78.433
CF	Aloysio Augusto Novis	2010	2011	6	2	47.643
CF	Augusto Boal	2010	2010	6	3	27.435
CF	Victor Valla	2010	2010	7	4	37.316
CF	Rodrigo y Aguilar Roig	2011	2010	4	2	67.020
CF	Maria Sebastiana de Oliveira	2011	2011	4	3	49.891
CF	Heitor dos Prazeres	2010	2011	6	2	46.007
CF	Felippe Cardoso	2011	2010	13	6	269.527
CF	Assis Valente	2012	2011	6	3	36.637
CF	Joãosinho Trinta	2014	2012	6	3	14.164
CF	Palmeiras	2010	2014	3	1	2.863
CMS A	João Cândido	2004	2010	2	0	32.371
CMS A	Alemão	2011	2004	6	3	112.945
CMS A	Iraci Lopes	1999	2011	2	0	37.907
CMS A	Parque Royal	1996	2000	2	0	27.852
CMS A	Gustavo Capanema	1996	2007	6	1	25.363
CMS A	Helio Smidth	1996	2011	4	2	46.253
CMS A	Nova Holanda	1996	2011	3	1	15.499
CMS A	Samora Machel	2007	2011	3	2	40.777
CMS A	Vila do João	2010	2007	7	4	39.622
CMS A	José Paranhos Fontenelle	2012	2010	4	0	2.345
CMS A	Parque União	1979	2012	2	0	35.837
CMS B	Jose Breves dos Santos	2000	2010	2	1	10.726
CMS B	Madre Teresa de Calcutá	1949	2010	4	1	30.577
CMS B	Maria Cristina Roma Paugartten	1988	2011	3	1	49.465
CMS B	Nagib Jorge Farah	1970	2010	8	4	77.256
CMS B	Américo Veloso	1967	2004	3	1	17.801
CMS B	CSE Germano Sinval Faria/ENSP/Fiocruz		2000	7	2	22.960
	AP 3.2	2011		80	28	445.447
CF	Herbert José de Souza	2011	2011	5	2	39.672
CF	Izabel dos Santos	2011	2011	4	2	115.246
CF	Anna Nery	2011	2011	6	2	22.776
CF	Emygdio Alves Costa Filho	2011	2011	5	2	30.342
CF	Edney Canazaro de Oliveira	2011	2011	5	2	19.309
CF	Anthídio Dias da Silveira	2011	2011	7	2	15.901
CF	Barbara Starfield	2011	2011	6	2	41.262
CF	Bibi Vogel	2011	2011	6	1	19.416
CF	Sérgio Nicolau Amin	2012	2011	5	1	15.568
CF	Carioca	2011	2012	1	1	5.002
CMS A	Tia Alice	2008	2011	3	1	15.267
CMS A	Professor Antenor Nascentes	2012	2008	1	1	16.701
CMS A	Rodolpho Rocco	1987	2012	6	2	25.841
CMS B	Dr. Eduardo Araújo Vilhena Leite	1979	2011	2	1	11.634
CMS B	Milton Fontes Magarão	1976	2011	4	1	6.136
CMS B	Ariadne Lopes de Menezes	1988	2011	4	1	2.892
CMS B	Dr. Renato Rocco	1984	2011	4	2	16.742
CMS B	Dr. Carlos Gentile de Mello	1985	2011	3	1	7.663
CMS B	César Pernetta		2011	3	1	18.077

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Table 2. continuation

Type of Unit	AP/Name of Unit	Year when the Units were Opened	Year when ESF was Implemented	Nº of ESF	Nº of ESB	Nº access to blogs
	AP 3.3	2006		114	48	1.005.732
CF	Souza Marques	2011	2012	8	3	176.172
CF	Enfermeiro Marcos Valadão	2011	2011	7	3	78.423
CF	Josueete Santana de Oliveira	2011	2011	4	2	36.698
CF	Maria de Azevedo Rodrigues Pereira	2011	2011	5	2	80.569
CF	Epitácio Soares Reis	2011	2011	4	2	70.589
CF	Ana Maria Conceição dos Santos Correia	2011	2011	5	2	41.572
CF	Maestro Celestino	2012	2012	2	1	12.820
CF	Raimundo Alves Nascimento	2011	2012	4	2	16.281
CF	Manoel Fernandes de Araujo "Seu Neco"	2012	2011	6	3	20.303
CF	Dante Romanó Júnior	2012	2012	8	3	25.236
CF	Carlos Nery da Costa Filho	2005	2013	5	2	50.725
CMS A	Professor Carlos Cruz Lima	1982	2007	4	2	30.120
CMS A	Sylvio Frederico Brauner	2010	2007	8	3	22.853
CMS A	Enfermeira Edma Valadão	2005	2010	7	3	21.436
CMS A	Fazenda Botafogo	2007	2007	4	2	25.544
CMS A	Portus e Quitanda	2007	2007	3	1	22.845
CMS A	Morro União	1977	2010	4	2	21.069
CMS B	Clementino Fraga	1996	2010	5	2	47.295
CMS B	Mario Olinto de Oliveira	2001	2013	1	0	10.515
CMS B	Carmela Dutra	2001	2010	3	1	26.910
CMS B	Dr. Flávio do Couto Vieira	1971	2010	4	2	56.796
CMS B	Augusto do Amaral Peixoto	2002	2010	3	1	24.591
CMS B	Dr. Nascimento Gurgel	2010	2010	4	1	31.625
CMS B	Alice Toledo Tibiriçá		2010	6	3	54.745
	AP 4.0	2011		39	12	629.724
CF	Maury Alves de Pinho	2012	2011	3	1	70.924
CF	Otto Alves de Carvalho	2012	2012	9	3	74.270
CF	Padre José de Azevedo Tiúba	2000	2012	5	2	143.717
CMS A	Curicica	2009	2000	3	1	4.508
CMS A	Canal do Anil	2006	2009	3	1	16.598
CMS A	Novo Palmares	2007	2007	2	1	31.239
CMS A	Santa Maria	2011	2007	2	1	47.791
CMS A	Itanhangá	2011	2011	1	0	12.858
CMS A	Newton Bethlem	1948	2011	4	1	150.902
CMS B	Cecilia Donnangelo	1969	2011	2	0	12.687
CMS B	Jorge Saldanha Bandeira de Mello	1998	2011	3	1	32.668
CMS B	Harvey Ribeiro de Souza Filho	1979	2013	1	0	24.965
CMS B	Hamilton Land		2012	1	0	6.597

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The other tool that can be used for the management of content on social media in primary health care is the "word clouds"<sup>34</sup>. It helps in the consolidation of a large volume of text, questionnaires and other surveys for management, which allows for thematic analysis similar that which has been done by Bardin<sup>35</sup>.

### Final considerations

The Health Observatories were developed with the aim of widening and making available information and evidence for making decisions in the health field, which includes the following areas: monitoring health care, the promotion of health care, analyzing primary health care, and the management of education in health. The importance

Table 2. continuation

Type of Unit	AP/Name of Unit	Year when the Units were Opened	Year when ESF was Implemented	Nº of ESF	Nº of ESB	Nº access to blogs
	AP 5.1		2012	120	44	982.975
CF	Antonio Goncalves da Silva	2012	2012	6	2	2.920
CF	Rosino Baccarini	2012	2013	5	2	6.748
CF	Armando Palhares Agnaga	2013	2011	5	2	8.517
CF	Fiorello Raymundo	2011	2009	6	3	26.800
CF	Olimpia Esteves	2009	2011	8	3	38.766
CF	Kelly Cristina de Sá Lacerda Silva	2011	2011	7	3	42.085
CF	Padre John Cribbin - "Padre João"	2011	2012	6	2	21.912
CF	Mário Dias de Alencar	2012	2011	5	2	51.925
CF	Nildo Eimar de Almeida Aguiar	2011	2015	6	2	12.692
CF	Maria José de Sousa Barbosa	2015	2015	8	2	4
CF	Faim José Pedro	2015	2011	7	2	5
CMS A	Athayde Jose da Fonseca	1998	2010	5	3	51.933
CMS A	Dr. Silvio Barbosa	2007	2012	7	3	6.205
CMS A	Buá Boanerges Borges da Fonseca	2004	2007	7	3	28.863
CMS A	Catiri	2007	2007	3	1	20.685
CMS A	Vila Moretti	2007	2012	1	1	32.114
CMS A	Manoel Guilherme da Silveira Filho	2012	2012	3	2	59.714
CMS B	Alexander Fleming	1987	2010	7	1	1.379
CMS B	Waldyr Franco	1960	2011	6	2	118.252
CMS B	Henrique Monat	1986	2011	3	1	21.488
CMS B	Padre Miguel	1981	2012	5	0	62.694
CMS B	Professor Masao Goto	1987	2010	3	1	22.675
CMS B	Dr Eithel Pinheiro de Oliveira	1977		1	1	344.599
	AP 5.2		2011	122	46	639.654
CF	Alkindar Soares Pereira Filho	2011	2011	7	3	11.343
CF	Dr. David Capistrano Filho	2011	2011	6	2	13.566
CF	Agenor de Miranda Araujo Neto	2011	2011	5	2	14.858
CF	Dr. Rogerio Rocco	2011	2010	6	2	24.435
CF	Dr. José de Paula Lopes Pontes	2010	2010	5	2	24.056
CF	Dr. Hans Jurgen Fernando Dohmann	2010	2010	4	2	26.606
CF	Dr. Dalmir de Abreu Salgado	2010	2012	5	2	21.280
CF	Sonia Maria Ferreira Machado	2012	2012	7	3	50.750
CF	Antonio Gonçalves Villa Sobrinho	2012	2015	6	2	32.430
CF	Everton de Souza Santos	2015	2007	6	2	-
CMS A	Raul Barroso	1981	2014	4	2	14.851
CMS A	Dr. Mourão Filho	2006	2006	2	1	7.387
CMS A	Dr. Maia Bittencourt	1988	2009	4	2	4.146
CMS A	Adão Pereira Nunes	1985	2004	5	2	67.052
CMS A	Ana Gonzaga Vila Esperança	2004	2004	3	1	10.422
CMS A	Jardim Anápolis	2004	2004	3	1	17.845
CMS A	Vila São Jorge	2004	2007	2	1	35.022
CMS A	Vila do Céu	2007	2011	6	2	10.057
CMS A	Carlos Alberto Nascimento	2011	2008	5	2	4.222
CMS A	Aguiar Torres	2005	2012	3	1	27.390
CMS B	Dr. Garfield de Almeida	1982	2007	1	0	352
CMS B	Professor Edgard Magalhães Gomes	2007	2011	7	3	78.520
CMS B	Dr. Oswaldo Vilella	1987	2011	4	1	9.714
CMS B	Belizario Penna	1969	2010	2	1	16.280
CMS B	Dr. Mário Rodrigues Cid	1981	2012	3	1	31.518
CMS B	Dr. Alvimar de Carvalho	1987	2011	2	0	32.331
CMS B	Dr. Woodrow Pimentel Pantoja	1982	2011	2	1	35.379
CMS B	Professor Manoel de Abreu	1986	2010	4	1	14.439
CMS B	Dr. Pedro Nava	1987		3	1	3.403

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Table 2. continuation

Type of Unit	AP/Name of Unit	Year when the Units were Opened	Year when ESF was Implemented	Nº of ESF	Nº of ESB	Nº access to blogs
	AP 5.3		2013	114	73	575.909
CF	Waldemar Berardinelli	2013	2011	8	4	17.169
CF	Valéria Gomes Esteves	2010	2010	5	4	11.883
CF	Ilzo Motta de Mello	2010	2010	5	5	37.366
CF	Lenice Maria Monteiro Coelho	2010	2010	4	3	12.829
CF	Lourenço de Mello	2010	2011	4	4	72.140
CF	José Antonio Ciraudó	2010	2010	8	4	15.322
CF	Sérgio Arouca	2010	2010	6	3	22.832
CF	Helande de Mello Gonçalves	2010	2010	3	3	19.531
CF	Jamil Haddad	2010	2010	6	4	17.238
CF	Deolindo Couto	2010	2010	5	4	25.944
CF	Edson Abdalla Saad	2010	2011	7	5	75.712
CF	Samuel Penha Valle	2011	2007	3	2	38.445
CMS A	Dr. Cattapreta	1987	2011	4	4	9.919
CMS A	Enfermeira Floripes Galdino Pereira	1986	2010	1	1	13.724
CMS A	Professor Aloysio Amâncio da Silva	1988	2011	4	0	7.312
CMS A	Cesário de Melo	1982	2007	6	0	59.201
CMS A	Emydio Cabral	1998	2006	7	6	40.133
CMS A	Dr. Cyro de Mello Manguariba	2000	2012	4	4	21.680
CMS A	Ernani de Paiva Ferreira Braga	2012	2011	7	3	11.398
CMS A	João Batista Chagas	1980	2000	3	2	12.380
CMS A	Professor Sávio Antunes	1985	2009	4	2	3.375
CMS A	Adelino Simões	2004	2010	6	5	14.180
CMS B	Dr. Décio Amaral Filho	1988		4	1	16.196

Source: SMS/RJ, Network of Stations OTICS-RIO/SMS-RJ, CNES/DATASUS36, May 2015 and Cazelli<sup>37</sup>.

Key: CF = Family Clinic, CMS A = Municipal Health Center that only has ESF, CMS B = Municipal Health Center that has the mixed model (with ESF and other specialists), CSE = Health School Center. ESF = Family Health Teams, ESB = Oral Hygiene Teams

of the observatories is related to the information that is available. It is also related to the possibility of producing analysis that covers monitoring and evaluating data and observing tendencies. Aside from this, with the use of technology, the observatories continue to provide regular and ongoing updates and they allow for interactions and collaboration to take place between different interested parties.

In relation to the OTICS-RIO, this form of innovative social communications done at very low running costs for SUS and with the use of information technology, allows for the capturing of day to day work in an easy and modern manner for every health unit. It also allows for access to be made in real time of documents, videos, photographs and other means of registering information which can then be subsequently shared with society. It also facilitates the exchange of experiences and it allows for the

institutional recognition of best practices. Over the last five years the creation of such cultural organizations has allowed for the incorporation of work processes for the ESFs and for the regular updating of blogs in every unit which serves as a principal communication channel for populations in specific catchment areas. From 2014 the directors and managers of every unit became responsible for validating the content of the blogs and they featured as part of the discussions and weekly meetings.

The main limitation of the OTICS-RIO Network is the lack of integration with some of the Study Centers that concern planning which only focus on supporting the educational development of students through internships and extra-curricular activities on graduate courses partnering the SMS. It fails to follow, in a timely manner, innovations that are implemented in health units.

One of the aims for the Observatory Network OTICS-RIO is: to have a virtual environment for learning (AVA) with tools that permit distance learning. This should allow for the analysis of information and the measuring of educational achievements of health care professionals in permanent or continuous education. The following has been taken into consideration: the constant flux of professionals in the Family Health Teams, the potential of the OTICS-RIO Network through the use of distance learning and the sharing of multimedia content.

Finally it should be noted that the Brazilian Society for Family Medicine and the Community

recognize the use of “blogs” as a tool for communication in health care for Family Health Teams (ESF). They invite teams from the OTICS-RIO to participate in video workshops and they divide their work into territories for primary health care. Also blogs were drafted at their last national scientific congress that took place in the city of Belém<sup>38</sup> and Gramado<sup>39</sup>. Territorial workshops allow community health teams to revise and consolidate micro-areas that fall under their remit of responsibility and it supports local management in redefining new territories aside from those that are near to the health workers and stimulate discussions on integrations with the APs.

### **Collaborations**

Pinto LF and Rocha CMF participated in the idea through defining the scope of this paper. They also contributed to: the drafting, the analysis of the data and the production of the final paper.

## References

1. Norman AH, Tesser CD. Acesso ao cuidado na Estratégia Saúde da Família: equilíbrio entre demanda espontânea e prevenção/promoção da saúde. *Saude soc* 2015; 24(1):165-179.
2. Atherton H. Use of email for consulting with patients in general practice. *British Journal of General Practice* 2013; 63(608):11811-11819.
3. Ferreira AI. *Projeções de Taxa de Mortalidade* [dissertação]. Porto: Faculdade de Ciências da Universidade do Porto; 2012.
4. Siqueira CE, Carvalho F. The Observatory of the Americas as a network in environmental and worker health in the Americas. *Cien Saude Colet* 2003, 8(4):897-902.
5. Novelli VF. *Observatório de Saúde: uma revisão sistemática* [dissertação]. São Paulo: Secretaria de Estado de Saúde de São Paulo; 2006.
6. Pinto LF. *Estratégias de integração e utilização de Bancos de Dados Nacionais para Avaliação de Políticas de Saúde no Brasil*. Tese de Doutorado. Rio de Janeiro: ENSP/Fiocruz, 2006, 207p. [acessado 2014 mar 4]. Disponível em: <http://bvssp.icict.fiocruz.br/lildbi/docsonline/get.php?id=640>
7. Brasil. Rede Interagencial de Informações para a Saúde (RIPSA). *Indicadores básicos para a saúde no Brasil: conceitos e aplicações*. Brasília: Organização Pan-americana de Saúde (OPAS), 2008, 2ª ed. 349p. [acessado 2014 mar 4]. Disponível em: <http://tabnet.datasus.gov.br/tabdata/livroidb/2ed/indicadores.pdf>
8. European Observatory on Health Systems and Policies (EOHSP). Escritório Regional na Europa da OMS. [acessado 2014 mar 4]. Disponível em: <http://www.euro.who.int/en/about-us/partners/observatory>
9. Saltman RB, Rico A, Boerma W. *Primary care in the driver's seat?* European Observatory on Health Systems and Policies Series. Open University Press, 2006, 251p. [acessado 2014 mar 4]. Disponível em: [http://www.euro.who.int/\\_\\_data/assets/pdf\\_file/0006/98421/E87932.pdf](http://www.euro.who.int/__data/assets/pdf_file/0006/98421/E87932.pdf)
10. Hemmings J, Wilkinson J. What is a public health observatory? Public Health Policy and Practice. *Journal of Epidemiology & Community Health* 2003; 57:324-326.
11. Dobson F. *Saving lives: our healthier nation*, Department of Health, London: The Stationery Office, 1999. [acessado 2014 mar 3]. Disponível em: <http://webarhive.nationalarchives.gov.uk/20130107105354/http://www.archive.official-documents.co.uk/document/cm43/4386/4386-00.htm>
12. North West Public Health Observatory (NWPHO). Public Health England, Department of Health, England. [acessado 2014 mar 3]. Disponível em: <http://www.nwph.net/nwpho/>
13. London Health Observatory (LHO). Public Health England, Department of Health, England. [acessado 2014 mar 3]. Disponível em: <http://www.lho.org.uk/AboutUs/AboutTheLHO.aspx>
14. Yorkshire and Humber Public Health Observatory (YHPHO). Public Health England, Department of Health, England. [acessado 2014 mar 3]. Disponível em: <http://www.yhpho.org.uk/default.aspx?RID=8449>
15. Eastern Region Public Health Observatory (ERPHO). Public Health England, Department of Health, England. [acessado 2014 mar 3]. Disponível em: <http://www.erpho.org.uk/ep/aboutErpho.aspx>
16. North East Public Health Observatory (NEPHO). Public Health England, Department of Health, England. [acessado 2014 mar 3]. Disponível em: <http://www.nepho.org.uk/about>
17. Sakellarides C. Direção estratégica e gestão de expectativas no sistema de saúde português: o papel de um observatório para os sistemas de saúde. *Rev Portuguesa de Saúde Pública* 2000; 18(1):27-34.
18. Barbosa PAA. *Política Social e Observatórios Sociais e de Saúde: que relação*. Relatório de Estágio. Observatório Português dos Sistemas de Saúde (OPSS). Lisboa, Universidade Técnica de Lisboa, Instituto Superior de Ciências Sociais e Políticas, 2005, 164p. [acessado 2014 mar 3]. Disponível em: [http://www.observaport.org/sites/observaport.org/files/PatBarbosa\\_PoliticSociais.pdf](http://www.observaport.org/sites/observaport.org/files/PatBarbosa_PoliticSociais.pdf)
19. Observatório Português de Sistema de Saúde (OPSS). Escola Nacional de Saúde Pública, Lisboa/Portugal, 2014. [acessado 2014 mar 3]. Disponível em: <http://www.observaport.org/>
20. Portugal. Ministério da Saúde. Portal da Saúde. *Organograma do Ministério da Saúde*. Lisboa, 2014. [acessado 2014 mar 4]. Disponível em: <http://www.arsalentejo.min-saude.pt/portal/conteudos/a+saude+em+portugal/ministerio/organograma/organograma.htm>
21. Observatório Regional de Saúde do Alentejo (ORSA). Administração Regional de Saúde do Alentejo. Ministério da Saúde de Portugal, 2014. [acessado 4 março 2014]. Disponível em: <http://www.arsalentejo.min-saude.pt/instituicoes/ObservatorioRegional/Paginas/ObservatorioRegional.aspx>
22. Quiterio F, Pereira P, Santos B, Lopes M, Tavares A. *Retrato da Saúde em Lisboa*: contributo para o perfil da saúde da cidade. Lisboa: Administração Regional de Saúde de Lisboa e Vale do Tejo, Portugal, jun/2013, 161p. [acessado 2014 mar 4]. Disponível em: <http://www.arslvt.min-saude.pt/observatorioregional/Documents/Perfil%20de%20Saude%20da%20Cidade%20de%20Lisboa-Junho%202013.pdf>
23. Observatório Regional de Saúde de Lisboa e Vale do Tejo (ORSLVT). Administração Regional de Saúde de Lisboa e Vale do Tejo (ARSLVT). Ministério da Saúde de Portugal, 2014. [acessado 2014 mar 4]. Disponível em: <http://www.arslvt.min-saude.pt/observatorioregional/Paginas/OBSERVAT%C3%93RIOREGIONAL-DESA%C3%9ADELISBOAEVALEDOTEJO.aspx>
24. Pereira M, Neves P. *Perfil de Saúde da Região de Lisboa e Vale do Tejo*. Lisboa: Administração Regional de Saúde de Lisboa e Vale do Tejo, Portugal, 2010, 106p. [acessado 2014 mar 4]. Disponível em: [http://www.arslvt.min-saude.pt/Documents/ARS\\_Perfil%20de%20Saude\\_Final.pdf](http://www.arslvt.min-saude.pt/Documents/ARS_Perfil%20de%20Saude_Final.pdf)
25. Observatoire Regional de Sante Île de France (ORS). L'Institut d'aménagement et d'urbanisme de La Région Parisienne (IAURP), France. [acessado 2014 mar 3]. Disponível em: <http://www.ors-idf.org/>
26. España. Ministerio de Sanidad, Servicios Sociales e Igualdad. Organización Institucional. [acessado 2015 mar 3]. Disponível em: <http://www.msssi.gob.es/organizacion/sns/informeAnualSNS/>
27. Observatorio de Salud Pública de Cantabria (OSPC). Dirección General de Salud Pública, Cantabria, España. [acessado 2015 maio 4]. Disponível em: <http://www.ospc.es/el-observatorio/bienvenida-y-presentacion>

28. Observatório de Salud en Asturias, 2015. [2015 nov 10]. Disponível em: <http://www.obsaludasturias.com/obsa/>
29. Rio de Janeiro. Prefeitura da Cidade do Rio de Janeiro, Secretaria Municipal de Saúde. *Rede de Estações-Observatório das Tecnologias de Informação e Comunicação em Serviços de Saúde*. Rio de Janeiro/RJ, Secretaria Municipal de Saúde, 2012. [acessado 2015 maio 6]. Disponível em: <http://www.redeoticsrio.org/>
30. Rio de Janeiro. Prefeitura da Cidade do Rio de Janeiro, Secretaria Municipal de Saúde. Rede de Estações-Observatório das Tecnologias de Informação e Comunicação em Serviços de Saúde. Rio de Janeiro/RJ, Secretaria Municipal de Saúde. *Tabnet – Fichas A*, 2015. [acessado 2015 maio 6]. Disponível em: [http://tabnet.oticsrio.org/cgi-bin/deftohtm.exe?ficha/pessoas\\_cadas.def](http://tabnet.oticsrio.org/cgi-bin/deftohtm.exe?ficha/pessoas_cadas.def)
31. Rio de Janeiro. Prefeitura da Cidade do Rio de Janeiro, Secretaria Municipal de Saúde. *Cadernos de Estatísticas e Mapas da Atenção Primária em Saúde do Município do Rio de Janeiro* (CEMAPS). Contribuições para a construção de uma linha de base para os cadastros das microáreas da estratégia de Saúde da Família do município do Rio de Janeiro. Rede de Estações-Observatório das Tecnologias de Informação e Comunicação em Serviços de Saúde. Rio de Janeiro/RJ, Secretaria Municipal de Saúde, 2013. [acessado 2015 maio 6]. Disponível em: <http://www.redeoticsrio.org/cemapsrio2014.html>
32. Ramalho JA. *Mídias Sociais na prática*. São Paulo: Elsevier; 2010.
33. Brasil. Ministério da Saúde (MS). Secretaria de Atenção à Saúde. Departamento de Informática do SUS. *Cadastro Nacional de Estabelecimentos de Saúde* (CNES), 2015. [acessado 2015 maio 20]. Disponível em: [http://cnes.datasus.gov.br/Lista\\_Es\\_Municipio.asp?VEstado=33&VCodMunicipio=330455&NomeEstado=RIO%20DE%20JANEIRO](http://cnes.datasus.gov.br/Lista_Es_Municipio.asp?VEstado=33&VCodMunicipio=330455&NomeEstado=RIO%20DE%20JANEIRO)
34. Feinberg J. *Word clouds*, 2015. [acessado 2015 maio 6]. Disponível em: <http://http://www.wordle.net/>
35. Bardin L. *Análise de conteúdo*. Lisboa: Edições Setenta; 1994.
36. Brasil. Ministério da Saúde (MS). Secretaria de Atenção à Saúde. Departamento de Atenção Básica. Histórico de Cobertura da Saúde da Família. [página da Internet] [acessado 2015 ago 20]. Disponível em: [http://dab.saude.gov.br/portaldab/historico\\_cobertura\\_sf.php](http://dab.saude.gov.br/portaldab/historico_cobertura_sf.php)
37. Cazelli C. *Avaliação da implementação do Programa de Saúde da Família no Município do Rio de Janeiro* [dissertação]. Rio de Janeiro: Escola Nacional de Saúde Pública; 2003.
38. Sociedade Brasileira de Medicina de Família e Comunidade. XII Congresso Brasileiro. Minicursos: Edição de vídeos para área da saúde. Territorialização em Saúde da Família com o uso do Google Earth. Criação de Blogs para saúde. Belém/Pará. [acessado 2015 out 30]. Disponível em: [http://www.eventosecongressos.com.br/oceano/familia2013/p/index\\_programado\\_forum.php#2276](http://www.eventosecongressos.com.br/oceano/familia2013/p/index_programado_forum.php#2276)
39. Sociedade Brasileira de Medicina de Família e Comunidade. 12<sup>th</sup> WONCA World Rural Health Conference / IV South Brazilian Congress of Family and Community Medicine. Oficinas: Territorialização em saúde da família com uso do Google Earth. Elaboração de Blogs para unidades de atenção primária em saúde. Gramado/Rio Grande do Sul, 03-05 abril 2014. [acessado 2015 out 30]. Disponível em: [http://www.eventosecongressos.com.br/oceano/familia2013/p/index\\_programado\\_forum.php#2276](http://www.eventosecongressos.com.br/oceano/familia2013/p/index_programado_forum.php#2276)

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