

# Final Thesis

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Date: 03.06.2013

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# Healthcare Communications on Social Media Networks

An Advice on:

*How can healthcare professionals (doctors, hospitals and insurance companies) make a (better) use of social media networks in order to generate awareness and engage general public on personalised medicine?*

On Behalf of:

*The thesis is performed on behalf of Publimarket B.V. and is commissioned by one of the clients namely – EuroBioForum.*



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## **Executive Summary**

The aim of this research project is to provide an advice on how can healthcare professionals – doctors, hospitals and insurance companies make a (better) use of social media in order to generate awareness and engage general public in personalised medicine. In order to reach this aim an extensive desk research, literature review and additional field research was conducted.

The research paper begins with introduction of the problem and background information of the company and the objective of the report. Then in the same chapter the advice question and research questions are given.

The next chapter is Situation Analysis in which the internal of EuroBioForum and external analysis of EuroBioForum and Healthcare professionals (doctors, hospitals and insurance companies). The internal and external factors are analysed and discussed from which a SWOT Analysis follows. There are also section about Trend/Market Analysis and Consumer Analysis. After that the Key Bottlenecks are established and Communication Analysis are developed.

The following chapter is Literature Review which consists of overview of the examined literature, what the theory and experts say about the successful characteristics of social media strategy on healthcare communications.

Then the subsequent chapter is In-depth Research Methodology in which the in-depth research questions and an overview of how they are being made measurable is provided. Then the research strategy, methods, material and planning is explained.

The chapter that follows is the In-depth Research Analysis where the findings based on topics and themes from the previous chapter are provided. The next section in this part is the conclusions, in which the interpretation of the facts are given.

The research paper ends with Recommendation chapter, there communication plans for the both communication strategies can be found. In the overview of the strategies the communication objectives, the approach, the theme and the message per target group are developed and established. Initial budget estimations per strategy are being provided.

## Acknowledgements

This research project wouldn't be possible without the support of many people. The success of the project depends not only on the author but largely on the encouragement, guidance and support of many others.

I wish to express my deepest gratitude to Mrs. Ellen de Waal who gave me the opportunity to conduct this project at Publimarket, a great company – pleasant and professional atmosphere and a an amazing team – qualified, kind and helpful people, thank you.

I would like to express my deepest gratitude to my mentor – Mrs. Pelagiya Dragomirova not only for the support for the thesis bur also for the moral and spiritual support. She was extremely helpful and committed. She offered me a valuable guidance, advice and understanding.

And last but not least, I wish to express my sincere gratitude to my supervisor at the Hague University - Mr. Peter Hanssen who was guiding me through the whole process and without his help this project couldn't become a reality.

## **Abbreviations**

**EBF** – EuroBioForum

**Pmed** – Personalised Medicine

**SM** – Social Media

**EU** – European Commission

**PwC** – PricewaterhouseCoopers



# **Chapter I: Introduction**

## **1. Background Information**

EuroBioForum (EBF) organisation is a forum for research funders and key players in personalised medicine; it is one of the major projects of Publmarket – Communications Agency which focuses on science and innovations. The project is funded by European Commission; Health directorate of DG Research & Innovation. EBF aim is to assure the position of Europe as research and implementation capital of personalised medicine for the benefit of the patient by organising annual conferences and building a strong community. EuroBioForum brings people and parties together and in that way establishing international collaboration system to encourage dialogue, cooperation and collaboration between various stakeholders (EuroBioForum, 2013).

### **1.1 What is personalised medicine concept?**

Personalised medicine is all about individual treatment for every single patient. Using personalised medicine means that every individual unique molecular characteristics can be determined and by using the genetic distinctions a diagnose for every individual's disease can be made. Personalised medicine gives the opportunity to select specific treatments and in that way increasing the chance for a successful outcome which subsequently will lead to reduce the bad results. Personalised medicine can also be used for making predictions about the diseases which someone can possibly have in the future and in that way help to avoid or reduce the degree to which the patient will experience it. (Center for Personalised Genetic Medicine, Partners Healthcare, Harvard Medical School, 2013)

## **2. Problem Description**

EuroBioForum is well-known and recognized partner by funders, healthcare performers, experts in the sphere of personalised medicine. The organisation is interested in what three specific groups of healthcare professionals (doctors, hospitals, insurance companies) are doing on social media in terms of interaction and dialogue with general public regarding personalised medicine. Currently, there is lack of universal communication strategy among healthcare professionals through which they communicate with general public about personalised medicine. The problem is that in order the general public to adopt and use treatments made possible by the research developments in personalised medicine, it should have the necessary knowledge, education and involvement.

This can be changed and can be achieved by using social media. But why social media? – because in the last years more people start using social media for valuable and trustworthy information. In 2011 80% of adults state that they use Internet for healthcare related topics. Social media nowadays is

where people meet new people with whom they are interacting, sharing and obtaining information. The role of the social media in healthcare is becoming bigger and bigger. Social networks have a major role in healthcare communications; nowadays they are integral part of the healthcare landscape. (Liesbmann-Smith, J. 2012)

### **3. Goal**

EuroBioForum believes that the rise of personalised medicine will change the face of the healthcare in the years to come and it is the future development of the healthcare (EBF, 2013). This can be claimed because in the last years a revolution in human genetics that has significant impact in all fields of medicine. Everything about our organisms is coded in our DNA, everything in our body (muscle, nerve, organ etc.) is constructed from and genes is saying a lot about the diseases from which we suffer or will and personalised medicine is all about that to determine every individual unique molecular characteristics and by using the genetic distinctions to diagnose every individual's disease, select specific treatments and subsequently successful outcome. (Centre for Personalised Genetic Medicine, Partners Healthcare, Harvard Medical School, 2013).

EuroBioForum goal is to make general public aware and engaged about personalised medicine in Europe, and for this purpose it considers the three groups of healthcare professionals (doctors, hospitals and insurance companies) the most appropriate groups to engage general public. EBF wants the three groups of healthcare professionals – doctors, hospitals and insurance companies to make (better) use of social media networks to generate awareness among general public and engage it in personalised medicine. For that purpose a social media strategy for healthcare professionals is developed.

However, talking about medical information and healthcare professionals on social media there are ethical issues that have to be taken into account. There are policy and laws which limits communication flow of healthcare professionals – doctors, hospitals and insurance companies on social media networks for answering questions or giving an information regarding specific health information about the patient.

## **4. Research Questions**

### **4.1 Advice Question**

EuroBioForum ask how can the healthcare professionals – doctors, hospitals and insurance companies make a (better) use of social media networks in order to raise awareness and engage general public on personalised medicine.

### **4.2 Research Objective**

The research objective was formulated as: to design a social media strategy for healthcare performers (doctors, hospitals, insurance companies) that will lead to raising public awareness and engagement regarding personalised medicine and achieved by making an analysis of the criteria for effective social media strategy for doctors, hospitals and insurance companies which will raise successfully public awareness and lead to engagement regarding personalised medicine; by understanding how doctors, hospitals and insurance companies current social media practice in relation to personalised medicine perform against these criteria; by understanding the role of social media in healthcare communication; by providing an overview of EBF objectives/goals (collective); by understanding the needs, interests, and objectives of doctors, hospitals and insurance companies and by understanding the current knowledge, interests, and needs of the public.

### **4.3 Main Questions/Sub-questions**

The main research questions that drove this study are the following:

**Q1** – What are the criteria for effective social media on healthcare for doctors, hospitals and insurance companies?

**Q2** – How do doctors, hospitals and insurance companies current social media practice performs against these criteria?

**Sub1** – What is being communicated on social media networks by healthcare performers (doctors, hospitals & insurance companies) in terms of healthcare communication and specifically about personalised medicine?

**Q3** – What is the role of social media in healthcare communications?

**Sub1** – How does social media change the access to medical knowledge and exchange of healthcare communication?

**Q4**– What are the EBF objectives/goals?

**Q5** – What are the interests and objectives of the doctors, hospitals & insurance companies?

**Sub1** - What do the doctors, hospitals & insurance companies already know, think and do regarding personalised medicine?

**Q6** – What are the current knowledge, interests and needs of the public?

**Sub1** – What do the general public already know, think and do regarding personalised medicine?

## **5. Research Methods**

### **5.1 The Research Design**

Overall the foundation of the research is a combination of data selection techniques and more specifically – a desk research and field research (e.g. interviews, extensive desk research, additional literature review, observation ). I chose to focus on this combination because in that way I gained various insights from each of the method leading to trustworthy and realistic information about the issue which subsequently will be useful to reaching the research objective. Using these methods a data about what is the best situation regarding the problem is collected and also and up-to-date and relevant data is obtained.

### **5.2 Data Collection**

The observation technique was of a great use and it is appropriate for this case. An observation of social media networks was necessary in order to see what are healthcare professionals (doctors, hospitals and insurance companies) doing/communicating about personalised medicine on social media networks.

Another technique which was appropriate in this specific case is expert interviews. This was a useful and a valuable method since for this topic an expert in the field is required so that trustworthy and valid information and insights are provided – information about what they think and do as well as about what general public/patients think, know and do.

The other method that from which real insights were the extensive desk research/ additional literature which includes expert literature on the topic of healthcare, personalised medicine, healthcare and social media etc., medical reports from European Commission and other professional organisations as well as observation. This method provided an opportunity to dive into existing research, medicine reports, questionnaires and surveys concerning healthcare/personalised medicine and social media.

## Chapter II: Situation Analysis

# 1. Internal Analysis/Micro Environment

## 1.1 The organisation

### 1.1.1 About EBF

*Scout. Connect. Activate*

*EuroBioForum (EBF) is a forum for research funders and performers in personalised medicine.*

EuroBioForum (EBF) organisation is a forum for research funders and key players in personalised medicine; it is one of the major projects of Publimarket – Communications Agency which is sciences based. The project is funded by European Commission; Health directorate of DG Research & Innovation. EBF aim is to assure the position of Europe as research and implementation capital of personalised medicine for the benefit of the patient by organising annual conferences and building a strong community EuroBioForum brings people and parties together and in that way establishing international collaboration system to encourage dialogue, cooperation and collaboration between various stakeholders . (EuroBioForum, 2013)

### 1.1.2. Approach & Expected Results

#### - Approach

EuroBioForum (EBF) is an organization which is dedicated to bridge the gap between research, funding and policy objectives by an expansive participation of stakeholders in the EBF platform. The organisation believes in a personal approach – it strives to facilitates direct, face-to-face contact to optimise the exchange of ideas and thoughts driven by ‘personal participation’. The EuroBioForum activities are grouped into three main sections:

- Annual Conferences – EuroBioForum( 2012, 2013, 2014)
- Personalised Medicine Observatory
- Online community

(EuroBioForum, 2013)

In the coming years EuroBioForum will continue to organise Annual Conferences. On these meetings the barriers and challenges for implementation and adoption of Pmed will be analysed and future objective will be discussed. For EBF this could be an excellent opportunity which can give a start a community. Talking specifically about the annual conferences, each of it will have a different focus and will elaborate on the previous conferences.

- Expected Results

EuroBioForum will contribute to the following results in the field of personalised medicine in Europe:

- The foundation of an active network to track and monitor Pmed progress
- Improved coordination between key players/stakeholder in the field of Pmed
- Cooperation between stakeholders- since this is the only way to meet the upcoming challenges
- Improved interaction and network building to reach the goal and ensure success on implementing Pmed

(EuroBioForum, 2013)

### 1.1.3 Activities

#### *EuroBioForum Annual Conferences*

*2012 | Is Europe ready for Personalised Medicine?*

*2013 | A collaborative approach to Personalised Medicine*

The objective of EuroBioForum annual conferences were to provide an insight into current national and regional policies, funding and strategic plans in personalised medicine sphere. In the annual meetings participants had the opportunity to meet other key players in the field of personalised medicine exchange knowledge, experiences and build networks for collaboration. The conferences served as a platform to exchange views on strategies about implementation of Pmed and find solutions to overcome barriers in the field. (EuroBioForum, 2013)

The annual meetings are mainly for representatives of national governments, regional governments, bio clusters, regional development agencies, funding agencies, national research councils, learned societies, industrial federations and patient forums. A lot of European countries took part in this conferences. (EuroBioForum, 2013)

#### **The objectives of the conferences are the following:**

- Provide insight into current national and regional policies, finding and strategic research and innovation plans in personalised medicine.
- Help participants to meet other 'key players' in the sphere of personalised medicine to exchange knowledge and experiences.
- Explore specific topic for future coordination and cooperation.

(EuroBioForum, 2013)



All this information is insightful to my research objective because EBF activities, goals and efforts are towards key players/stakeholders in Pmed in order to be implemented in Europe. The three groups of healthcare professionals are part of these stakeholders and EBF role is to make them informed and motivated so that they can start communication with general public about Pmed on social media sphere.

- Personalised Medicine Observatory

EBF launched a personalised medicine observatory. This is an online database and it is public available, the observatory is on the official website of EBF and everyone has an easy and fast access to it. Its aim is to give an insight into key people and key initiatives in personalised medicine all around Europe which will provide a base for a closer link between policy objectives and research & innovation funding. In the database a snapshot of initiatives related to Pmed around Europe are collected and grouped; it presents an overview of initiatives per country and/or topic. (EuroBioForum, 2013).

- EuroBioForum Community

EuroBioForum is realising that by only organising meetings is not enough to meet the challenges, overcome the barriers of implementing Pmed and stimulate collaboration. That is the reason EuroBioForum website is functioning as an online platform in which funders, policy makers and scientists who are involved in personalised medicine can share their views, thoughts, ideas and opinions. Furthermore, EuroBioForum believes that this community will help in the establishment of a network which will make the challenges to be solved easier. By discussions and interaction, community members who participate in the community will help to set the challenges of personalised medicine in Europe by taking part in discussions. (EuroBioForum, 2013)

From this it can be concluded that EBF brings various stakeholders/key players together and builds a network for setting goals and meet barriers for implementation of Pmed. However another question arises, which is whether EBF can influence the healthcare professionals and if they would have the motivation and ability to use social media on this topic.

This data provides insights about what is being done by EBF in terms of communications and engagement with stakeholders and what else should be done. In order to reach the research objective and before the three groups of healthcare professionals are able to start communicating and engaging on social media with the general public, the communication engagement should go a step backwards: meaning that the healthcare professionals need to get involved in the ongoing

dialogue on Pmed on their organisational level. That could be achieved by participating to working meetings and conferences in Europe where the Pmed topic is central in the discussions.

## **2. External Analysis**

### **2.1 Trend/Market Analysis**

The major healthcare trend that is emerging is the personalised medicine concept. Nowadays patients more and more would like to receive better service and more personalised experience and personalised medicine can provide this kind of attention that patient want. The current approach of providing healthcare for patients is based mostly on the stratification of population groups not on the assessing the individual. The fact that each human is unique in their biological personality has been largely neglected which resulted in the common practice – one treatment that fits all people approach. The biggest opportunities are outside of the traditional healthcare sector. There are countries which already adopted personalised healthcare into practice, however in Europe the stage of implementation is not on high level.

There are many challenges that should be addressed and they are not only on the patients' side. In order to overcome them a need to makes use of the current information technologies to facilitate the communication and appropriate education between health professionals is required. (European Alliance for Personalised Medicine. Manifesto on *Personalised Medicine: News Perspectives for Patient in Europe*, 2012)

Another trend is social media. Nowadays our world is turned upside down – social media changes the way we communicate and it also has impact on healthcare industry. The role of social media in healthcare is becoming bigger and bigger. Social media platforms offer so many opportunities and hold a potential value for healthcare performers – they can use them to reach public/patients, to inform, engage and collaborate with them. (Keckley, P. Deloitte Report, Social Networks in Health Care: Communication, Collaboration and Insights, 2010)

According to the Deloitte report on healthcare and social media, more and more patients are using social media in general and particularly for healthcare topics so healthcare performers (doctors, hospitals and insurance companies) can make use of it and make a better use of social media to make public aware and engage them in Pmed. The reports argues that the predictions for the future are also in this direction – social networks will be a fundamental part of the healthcare scene. (Keckley, P. Deloitte Report, Social Networks in Health Care: Communication, Collaboration and Insights, 2010)

PwC's forecast is that the market of more personalised approach to health care will increase to \$452 billion by 2015. The report argues that maybe personalised medicine will be one of the forces which will drive to change from traditional healthcare to more personalised, collaborative and patient-central model. (PR Newswire, 2009)

Frost & Sullivan are saying that, personalised medicine is a new phase in the services that the medicine and healthcare offers. Speaking in terms of Europe there is a market growth on personalised medicine. The market of personalised medicine in Europe is currently growing in double rates, which is considerable since it is already growing with high rate. The more European governments support personalised healthcare and their goal is to implement it the more market of Pmed in Europe will continue to grow. (Frost & Sullivan, 2011) At present, personalised medicine creates a booming market, however it will create opportunities well as challenges for traditional healthcare and the participants. (PwC Report . *The Science of Personalized Medicine: Translating the Promise into Practice*, 2009)

### 3. Macro Environment/ DESTEP Analysis

#### 3.1 Demographic

- Population/Age

According to the Quarterly Journal for Healthcare Practice and Risk Management Report, *Medical Social Media Networks: Communication Across the Virtual Highway*, speaking about healthcare and social media in 2011, around 80% of adults say that they use Internet to search for healthcare information. The PwC report says that one-third of the adults use social media networks such as Facebook, Twitter, YouTube, Google+ and other to look for medical data, express opinions, feelings, and symptoms. (PwC 2012, *Social media “likes” healthcare. From marketing to social business.*)

The result of that is – people are becoming more healthcare literate (e.g. more than half of them say that they will select hospitals based on their presence on social media networks). This provides a big opportunity for doctors, hospitals and insurance companies to use social media in order to engage general public/patients and drive awareness about personalised medicine via social platforms. (Liesbmann-Smith, J. 2012)

#### 3.2 Economic

Richard Hamermesh from Harvard Business School said that: “There will be a big economic incentive to do personalised medicine. When half of the drugs that people take don’t work, there’s a stake that the payer community has in getting it right the first time and not doing it by trial and error (Thomas D. Szucs, *Economic Aspects of Personalised Healthcare*, 2011)

According to a research of Genome Quebec, a report “Evaluating the Potential Socio-Economic Impact of Personalised Medicine”, the research is funded mainly from public organisations because it is too expensive for private sector since there is no guarantee for the future and they can lose a lot of money. In that sense the governments should be the organisations that have to make a decision to adopt personalised medicine by hospitals/clinics and to introduce a policy on a national scale about personalised medicine adoption. (Castonguay, J. 2012)

### 3.3 Social-Cultural

#### - Behaviour

According to Prof. Cristian Vladescu and Mauris Ciutan, important factors for adopting new practices is the awareness and engagement provided by healthcare professionals to patients on the specific topic. The factors that influence decisions of the patients are: awareness, attitude towards the topic, knowledge and perception of the risks, perception of benefits and losses, education on the topic. The first step is the added value of the implementation of Pmed to be shown and explained and then it is the implementation process after which the acceptance is following. (Vladescu, C., & Ciutan, M., 2011)

According to Prof. Cristian Vladescu and Mauris Ciutan, changes in old behaviour is not equally supported by all cultures. And that is an important factor since the implementation of Pmed is about Europe in general, so the differences in cultures and countries have to be taken into consideration. The social change is a huge obstacle – a change in public's behaviour is a necessity – educate, aware and engage general public to build expectations and generate acceptance among the people. (Vladescu, C., & Ciutan, M. , 2011)

Innovation is a process not a destination and there is a big need for initiating new lifestyle where people make decisions to change. The message here is *patient central & engagement* (EuroBioForum, 2013).

### 3.4 Technological

Marta Majewska, Head of Digital, Europe at Porter Novelli says that communication technologies nowadays have big influence on people's life. Taking the Internet and social media networks and platforms which completely changed the way people communicate. A Deloitte report, "Social Networks in Healthcare", says that in terms of healthcare and personalised medicine on social media networks, it can be said that nowadays the role of social media in healthcare is becoming bigger and bigger; social networks have a prominent role in healthcare communications. These days' doctors, hospitals and insurance companies are "out there" on social media landscape communicating with the public. (Keckley, P. 2010)

### 3.5 Political

A medicine journal, "Management in Health, A Personalised Medicine – A new approach of the Healthcare in Europe" argues that from political point of views, Europe is ready to explore and develop personalised medicine concept according to the two important principles of European

health systems: health equity and universal access. This means avoid throwing out innovation too early based on lack of data at the beginning. EU member states goal should be to ensure that personalised medicine contributes to the improvements of population's health effectively and efficiently with clear and strong evidence for value of the patient, as well as a time frame for developing the data to prove it. All this can become a reality if only there is a good collaboration between health professionals and policy makers – between the various stakeholders involved. (Vladescu, C., & Ciutan, M., 2011)

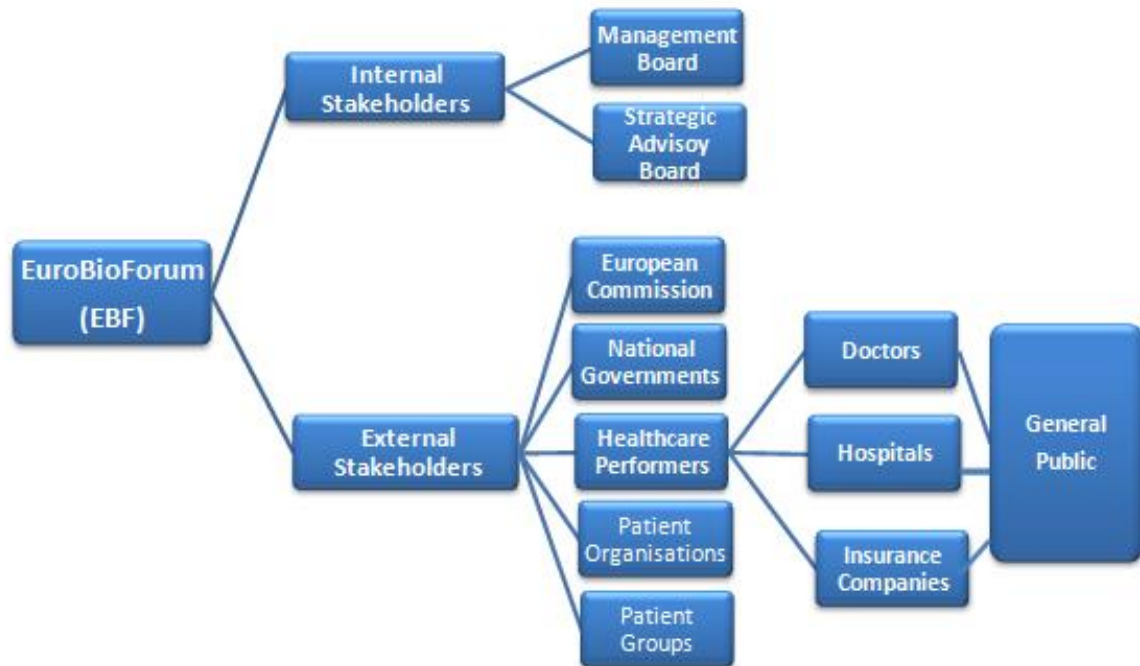
### **3.6 Regulations/Funds**

Recently there are a lot of funds which are specially made for financing healthcare projects and specifically those related to personalised medicine. An on-going project co-funded by the European Commission which is until 2014, is aiming to create an interactive platform for life sciences performers and funders in the field of personalised medicine. Another project that EU Commission will launch later on is its follow-up programme called Horizon 2020 *“The EU Framework Programme for Research and Innovation”* where the topic of personalised medicine will be very prominently included. Under these programmes EU Commission is funding numerous projects in the sphere of healthcare, science and specifically personalized medicine. (European Commission. Research & Innovation, Horizon 2020, 2013)

## 4. Meso Environment

### 4.1 Stakeholders

The EBF stakeholders are of a key importance for the adoption and implementation of Pmed in Europe. The main stakeholders of EBF are the following:



*Graph 1.1 Stakeholders Overview - EBF & Key players & Public – Interrelations*

The diagramme provides an overview of EBF organisation and its relation to its stakeholders – internal as well as external as well as description of the three main key players in personalised medicine (doctors, hospitals & insurance companies). The diagramme provides an overview of the involved parties in personalised medicine in relation to EBF organization and shows more clearly the groups around which the research is conducted.

#### *4.1.1 Relation of EBF and healthcare professionals (doctors, hospitals and insurance companies)*

In the next paragraph an overview of the relationship between EBF and healthcare professionals will be provided. Speaking specifically, what are EBF goals, what EBF thinks is the role of the healthcare professionals in communication about Pmed, what is the EBF view of what should be achieved by these three groups in relation to communication about Pmed and if there any differences in what EBF thinks these three groups should do in terms of communicating about Pmed and what they are doing.

#### 4.1.2 EBF Goals

- To assure the position of Europe as the research and implementation capital of Pmed (all for the benefit of the public/patient)
- To create an international collaboration network to foster dialogue, cooperation , interaction & partnership between stakeholders to drive success within Pmed
- To bridge the gap between research funding & policy objectives by an expansive participation of stakeholders on the platform/ improve coordination between research, policymakers & funders in order challenges of Pmed to be meet (all for the benefit of the public/patients)
- Find a solution how to start removing the overburdens of barriers that Pmed has to overcome before it will be fully implemented in the healthcare system in different EU countries (EuroBioForum, 2013)

*4.1.3 What role do these three play in communication in terms of adoption of Pmed according to EBF? / What is the EBF view on what should be achieved in terms of communicating Pmed by these three groups?*

Doctors, hospitals & insurance companies are playing a crucial role in communication in terms of Pmed according to EBF. After the first step which is a creation of a network consisting of research funding, policy making organisations, national governments , industrial federations, national research councils which is needed in order the funding and the policy objectives to be defined, a second step is the implementation. (EuroBioForum, 2013)

Talking about implementation is where the role of doctors, hospitals & insurance companies comes. These three groups of important stakeholders are key players, game changers – they will be the parties which should implement Pmed in practice. Keeping this in mind it can be said that in terms of communication of personalised medicine EBF thinks that this should be achieved by the three groups of stakeholders and that they have be actively involved – they should engage the public, make it aware and educated of Pmed (EuroBioForum, 2013). They are the organisations and people who should be responsible for the communication flow; as Dr. Howard Luks’s says: “I firmly believe that physicians have a moral obligation to educate their patients”.

However, the communication in terms of Pmed from these three groups of stakeholders should be conducted online – on social media networks, where some doctors, hospitals and insurance companies already are involved and communicate with the public. Doctors, hospitals and insurance companies should engage the public and generate awareness among them of personalised medicine concept in order to advance adoption because for implementation of personalised medicine in EU a



large input from the general public/potential patients is required – they are the people to make use of it. (EuroBioForum, 2013)

Currently, general public/patients are absent from the public debate and there is a huge information and communication gap – no general basis info for consumers and no info in business media (EBF, 2013). Nowadays the public is using social media a lot for healthcare topics, to connect with doctors, hospitals & insurance companies. So a communication for personalised medicine on social media networks aiming at informing, educating and engaging general public is a smart approach that doctors, hospitals and insurance companies should adopt. (EuroBioForum, 2013)

## **4.2 Internal Stakeholders**

- Management Board
- Strategic Advisory Board

The Management Board consists of three members and the Strategic Advisory Board consists of seven members, various international experts. They are working together to ensure the tasks are executed, the policies are met, the plans are developed and the goals are reached. The Strategic Advisory Board is a management team on strategic approach and decisions. Because of the team's diverse expertise their role is to influence the plans and policies. The Management Board is the team who actually executes the policies and make sure that the results are visible and goals are achieved. (EuroBioForum, 2013)

## **4.3 External Stakeholders**

- European Commission

European Commission is an important stakeholder since the EBF is funded by it. EBF project is part of the 7<sup>th</sup> Framework Programme of European Commission which runs until 2014 and later on the European Commission will launch its follow-up programme called Horizon 2020 “*The EU Framework Programme for Research and Innovation*” where the topic of “personalised medicine” will be very prominently included. The goals for research and innovation activities under the Horizon 2020 programme are: strengthen the EU’s position in science, providing an enhancement for research in Europe; strengthen the leadership in innovation; and address social issues. (European Commission. Research & Innovation, Horizon 2020, 2013)

Communication issue:

The European Commission's way of communicating about Pmed is by launching variety of projects on the topic, the website is also full of information about it however this communication is towards organizations who can conduct the projects not towards general public. (European Commission. Research & Innovation, Horizon 2020, 2013)

- National Governments

National governments are another important stakeholder group because they have a key role in introducing and implementing laws, taxes and legislations which are typical and different for every country and subsequently for the organizations around the world. Since, EBF is working closely with other countries in Europe it should consider this follow the changes. EBF should constantly look for changes in laws, policies concerning the specific industry and sector in which they operate. An implementation of new policies, laws, regulations can be an opportunity for the organization as well as a threat. (EuroBioFoum,2013)

Communication issue:

The National governments' communication about Pmed is towards the healthcare professionals and intuitions in the specific countries since their role is to make the laws, regulations etc. convenient for the healthcare professionals so that they can implement Pmed. (EuroBioFoum,2013)

- Hospitals

Hospitals are significant stakeholder group. According PwC Report on *Personalised Medicine in European Hospitals Report* they are one of the first healthcare organization which has to adopt and put in practice personalised medicine. Currently, some hospitals are developing and implementing new technologies. However at present moment the research funding is insufficient and the staff in the hospitals don't have the knowledge required for making use of Pmed. Hospitals are facing with these barriers on the way of adopting Pmed, a need for adapting to the healthcare changing environment is here. Meantime hospitals are one of the healthcare professionals who have to communicate with general public/patients about personalised medicine in order to engage them and drive awareness among them. (PwC Report. *Personalised Medicine in European Hospitals Report*, 2012)

Communication issue:

Currently the hospitals which are communicating about Pmed to general public is by using traditional methods and contemporary (social media). However, they are not actively communicating with

general public/potential patients - they communicate with brochures leaflets and posters about diseases and treatments in the hospital itself.

In terms of social media not all of them are active, the hospitals that are involved in social media communicate with the general public by: being available on different social media platforms and channels; post information on healthcare topics; publish data about the hospital, share peer-to-peer information: post patients stories and notes.( Liesbmann-Smith, J. 2012) However, they also are not communicating specifically about Pmed Further on, in the next chapters a detailed overview of what hospitals are communicating on social media will be provided.

- Doctors

Doctors – as healthcare providers - are another key player. The future of the healthcare – personalised medicine hold challenges for doctors who should have the training and education, to possess additional knowledge to make the right, effective decisions on which treatment to be used when reading genetic data. The doctors are the people who will lead the treatment, decide which is the best for patient and make analysis of the data. So, their role is a key in communicating personalised medicine to general public/patients. (PwC Report, *Personalised Medicine in European Hospitals*, 2011)

The involvement of the doctors in communicating across the message of personalised medicine will help people to be educated, aware and engaged in it. Currently the doctors which are communicating about Pmed are using traditional methods as well as contemporary methods (social media). Similar to hospitals doctors are communication via brochures and leaflets and the main way of communicating with the public is during personal contact – still the main arena for communication with is the oral consultations. (EuroBioForum, 2013)

Communication issue:

Speaking about social media the doctors who are communicating there – on social media networks are using various social media platforms and channels. Some of them are using social media for personal interests and fewer are using it for professional purposes. The doctors that are involved in social media for communicating with general public are: answering medical questions, post success stories and notes from patients, texting health messages, track diseases trends and share links, articles concerning medical problems. (Liesbmann-Smith, J.2012) However, they also are not communicating specifically about Pmed. Further on, in the next chapters a detailed overview of what

doctors are communicating on social media will be provided. (PwC Report, *Personalised Medicine in European Hospitals*, 2011)

- Insurance Companies

Insurance companies are key players and have an important role in the healthcare landscape and personalised medicine. In general the insurance companies make insurance plans for the people/patients. They launch special packages and decide on the treatments that will be included and subsequently covered with the insurance. However insurance companies decide by themselves what to be included and what not, in most of the cases they don't coordinate their decision with the doctors or consider what patients need. The insurance companies don't want to take the big risk and make investment in diagnostic technologies (which is the basis of *personalised medicine*) because it is new, expensive and without proven long-term efficiency. (EuroBioForum, 2013)

Communication issue:

The insurance companies have a different approach for communicating with general public/patients about healthcare and its insurance plans. The insurance companies that are communicating to general public by using traditional methods are promoting personalised medicine by putting the focus not on the treatment that Pmed offers but on rather on the personal prevention and better lifestyle of the people – in that way the insurance companies can sell their packages.(EuroBioForum, 2013)

Speaking about communicating on social media – the insurance companies which do that are using: health gaming apps, mobile health apps, launching channels to provide general public with customer service and additional information so the health literacy among general public will raise and diseases' prevention will be improved. Further on, in the next chapters a detailed overview of what insurance companies are communicating on social media will be provided. (PRNewswire, 2013)

- Patient Organisations

Despite of the fact that the research is focused on healthcare professionals (doctors, hospitals and insurance companies) the patient organisations are important key player and should be taken into account. They are an important stakeholder and can be considered appropriate for initiating the communication with the general public about Pmed. Patient organisations help to build up networks with the patients, to find out what patients think about specific topic and services, take into consideration their wishes, ideas and plans as well as represent their priorities. Patient represent

partnership between various groups such as: patients, government, industry and other professional organisations. (Lobban & Camm, 2013)

Patient organisations have an important role in healthcare systems on national level because they make the bond between patients and clinicians so that new, innovative changes in healthcare systems to be implemented. These groups inform, educate and provide help for general public. Patient organisations keep data records from patients, they have large database with patient information. This valuable data gives the opportunity variety of methods to be used for educating patients about changes and developments in healthcare. To conclude, what patient organisations do is to represent the views, ideas and desires of patients as well as to give them relevant and latest. (Lobban & Camm, 2013)

However, EBF is not focussing directly on the patient organisation at this stage (since the healthcare professionals are the current priority), it can be concluded that patient organisations are valuable stakeholder to help raise awareness and communicate about Pmed among the general public. As a direct representative to public ideas, views and demands the patient organisations are of a great potential for reaching the research objective. (Lobban & Camm, 2013)

#### Communication issue:

In terms of communication the research shows that patient organisations are not communicating about Pmed to the public, neither in traditional media nor on social media. The reason for that it can be that still personalised medicine is in its early stages of adoption and they themselves do not have the necessary information in order to communicate to the public.(EBF, 2013)

#### - Patient groups

Patient groups are also an important player in healthcare sector and have an important role as a stakeholder. Pmed already play an important role in some patient group for specific diseases such as: cancer treatment, heart disease, diabetes. For that reason they can be seen as an appropriate target group, another intermediary for communicating with healthcare professionals as well as with the general public. Currently the focus of EBF is not specifically directed the patient groups, however they have to be considered for the future evolvement. (Patient.co.uk, 2011)

Communication issue:

Some patient groups are aware and knowledgeable about Pmed when it comes to certain diseases since Pmed showed and proved good results when it comes to some treatments. However, in terms of communication about Pmed after the conducted research it can be seen that patient groups are not communicating on this topic. (EBF, 2013)

## 5. Consumer Analysis

*(General Public/Potential Patients)*

The general public/potential patients are important since they are the people who will adopt and use this new way of treatment. If EBF is to achieve its purpose, the public will first need to accept this new technology, to obtain knowledge, information, education and training about it and be able to use it as such. So efforts are needed in order to have trustworthy and valuable information for patients so that they will believe in this new technology and advance adoption in the near future. Currently, the general public/patients are absent from the public debate with one exception – cancer groups. That is why healthcare performers should look at this direction – general public/patient direction and to make efforts to inform them and engage with them. Personalised medicine has huge benefits for public/patients however in order public to know that and realize it should be aware and engaged. (EuroBioForum, 2013)

The patient today wants to participate and be actively involved in the decision about treatment options. The general practitioner is no longer seen as the only professional with knowledge about health and disease. Patients today have a much stronger voice based on their own knowledge and perceptions and needs for a healthy living. However the adoption of Pmed is a social change that is a huge obstacle it requires a change in consumer behaviour educating them, generate acceptance and build expectations. The message here is: *humanize & personalise*. To achieve this, a different type of relationship between public/patients and healthcare providers is needed. This calls for a new approach: patient-oriented. (Liesbmann-Smith, J. 2012)

The use of social media by general public is rising and that people are increasingly using it for health reasons. It says that social media holds considerable power for healthcare professional by listening and engaging with people. The general public/potential patients are using social media for healthcare to find answers to their needs, wants and preferences. (PwC Report , *“Social media “likes” healthcare: From marketing to social business”*,2012 )

One-third of the general public in Europe are using social media networks for healthcare purposes. They use platforms and channels such as YouTube, Facebook, Twitter, Google+, blogs and forums to look for information on healthcare. This includes searching for medical information, sharing symptoms, feelings and thoughts about doctors, hospitals, health plants (e.g. insurance companies), information about drugs and medical devices. The report also states that every four in ten people say they are using social media for health-related topics; every one in four posted something about their

health experience and one in five joined a health forum or community. (PwC Report, “Social media “likes” healthcare: From marketing to social business”, 2012)

The general public/potential patients are using social media to educate themselves better, for example people who have to take a decision about their health, social media is the place which offer a place for information and dialogue. (PwC, “Social media ‘likes’ healthcare: From marketing to social business” report, 2012)



## 6. Communication Analysis

In this chapter the interested parties who have a direct relation to the problem will be discussed and more specifically the role they play in communication in terms of healthcare, personalised medicine. These parties are the stakeholders' groups which communicate with general public/patients (active in their approach) and in distribution of their message across to the general public. It is important an overview of what these groups are communicating, on what kind of media, which social media, what is the current level of communication about personalised medicine is provided in the next paragraphs.

The parties that are concerned with the problem of engaging and make public aware in terms of Pmed on social media are the three stakeholder groups of healthcare performers – doctors, hospitals & insurance companies. They are the parties who can and have to play a significant role in solving this problem.

Currently regulators, payers and governments are starting a dialogues to encourage collaboration and stimulate discussions between physicians and academics/professors in relation to education, skills and knowledge of doctors and hospitals. (PwC Report. *Personalised Medicine in European Hospitals Report, 2011*)

Currently, much is being made in terms of research, funding and policy but not much is done in terms of communicating Pmed to the public/patients.

In terms of using traditional media to communicate, currently, the two groups of healthcare performers – doctors and hospitals are not communicating a lot in traditional media – they are not actively engaging and make public/patients aware of personalised medicine. Doctors and hospitals are communicating with brochures and leaflets about diseases and treatments. Talking about hospitals their main way of communication with public/patients is in hospital itself, when people walk into it they can see, posters, brochures and leaflets. In terms of doctors it can be said that their main way of communication with the public is during contact, still the main arena for communication with the public/patients is the oral consultation. (EuroBioForum, 2013)

For the insurance companies the situation is different. In terms of communication of personalised medicine they are as active as other stakeholder groups. (EuroBioForum, 2013) They are

communicating with the public outside of social media but in different way. Insurance companies are promoting and communicating personalised medicine by putting the focus not on the treatment that personalised medicine offers but rather on the personal prevention and better lifestyle of the people. The focus is on these characteristics because in that way the insurance companies can sell their packages. (EuroBioForum, 2013)

From various quality reports on healthcare and social media a detailed overview on what these groups of healthcare professionals are currently doing/communicating on social media. This is not a common practice in Europe and not many healthcare performers (hospitals, doctors and insurance companies) do it or they do it but are not actively involved. It is true that not many hospitals and doctors are very active; some of them are not active at all on social media landscape, however much more progress is being made in communication with the public via social media instead of using traditional ways.

Kelly Barnes, HRI'S Health Industries Practice Leader says that: "The power of social media for health organisations is in listening and engaging with people on their terms and health organisations have the opportunity to use social media as a way to better listen, participate in discussion and engage with customers in ways that extend their interaction beyond a clinical encounter. (PwC Report. *Social media "likes" healthcare. From marketing to social business* Report, 2012).

*In the next part SWOT Analysis an overview of the strengths, weaknesses, opportunities and threats of EuroBioForum as well as of healthcare professionals – doctors, hospitals and insurance companies in terms of Pmed and Pmed in relation to social media is given.*

## 7. SWOT Analysis

### 7.1 SWOT EBF

#### Strengths (EuroBioForum)

- Personal approach/ facilitate contact/ personal participation
- Has individual online platform (facilitates a creation of a network and community among stakeholders)
- Large database (contacts in the sphere of Pmed)
- Online database / online observatory - public available
- Annual Conferences- expansive participation of stakeholders; challenges in the field of Pmed to be analysed ; goals to be set for benefits of the patients
- Annual Conferences/Meetings – patient organizations can participate (they represent general public/patients)
- Good results in research, funding and policy about Pmed

#### Weaknesses (EuroBioForum)

- No participation at the forum/annual conferences of the three groups of healthcare professionals - doctors, hospitals & insurance companies → a barrier for implementation of Pmed
- Knowledge and insight what public knows, thinks and do but - Limited insight what are public needs and limited involvement

#### Opportunities (EuroBioForum)

- Engage general public by opinion leaders – doctors, hospitals & insurance companies via social media
- EBF can influence the healthcare professionals who subsequently can influence general public
- EU launching new projects and funds for financing healthcare projects including Pmed in the years to come
- In addition to contemporary methods (social media) - use traditional methods to communicate with general public about Pmed - drives people to go on social media to look for information

#### Threats (EuroBioForum)

- Limited project work – 4 years – not enough time to influence healthcare professionals who subsequently have to influence general public

## 7.2 SWOT Healthcare professionals

### Strengths (Healthcare professionals)

- Some healthcare professionals are becoming more involved in Pmed
- Healthcare professionals are opinion Leaders – people trust them
- Personal connection with general public/potential patients

### Weaknesses (Healthcare professionals)

- Don't have the required knowledge, resources and skills about Pmed
- Don't have the knowledge and skills on social media to communicate about Pmed there
- Don't want to communicate on social media – some because of ethical issues; others because they think this is not their role

### Opportunities (Healthcare Professionals)

- Trend - Prominent role of social media in healthcare – becoming bigger and bigger; education and engagement of the public in Pmed via social media
- Use of Internet & social media for healthcare information – 80% of adults
- Social media empowers patients – they become more healthcare literate; stronger voice
- Educate & engage people in Pmed via social media by
- Drive Pmed to implementation by general public via social media engagement & education
- Awareness & engagement - important factors towards adopting the new practice
- In addition to contemporary methods (social media) - use traditional methods to communicate with general public about Pmed - drives people to go on social media to look for information

### Threats (Healthcare Professionals)

- Healthcare professionals cannot take the decision about adopting Pmed - not social-optimal; too expensive and can't guarantee initiatives – government intervention - introduce nation-wide policy on Pmed adoption.
- Social media empower patients – they become more healthcare literate – stronger voice
- Not communicating with general public & not engagement via social media – lead to resistance to adopt the technology since the public is not educated & engaged
- Ethical issues for Pmed & Social Media – laws which limits communication between healthcare professionals and their patients
- The rhythm of implementation & changes in old behaviour is not equally supported by different cultures/countries
- Not using traditional methods additional to contemporary methods (social media) – no driving force for people to go and look for information on social media about the topic

## 8. Core problem and Key Bottlenecks

After conducting Situation Analysis and SWOT analysis the real problem appears to be that many of the healthcare performers themselves do not have enough knowledge and awareness about Pmed, so they cannot communicate this topic to the general public which means we can't count on them. Some also don't have the knowledge and skills on social media to communicate about Pmed there. Others don't want to communicate on social media – because of ethical issues; others because they think this is not their role. It may appear that the healthcare professionals are also not willing to communicate because they are not informed and motivated enough in order to do it.

This appears to be a real challenge for the EBF – how can EBF educate and engage the healthcare professionals? What are the key factors that have to be taken into account to raise awareness, interest and motivation of professional intermediary group of opinion leaders in healthcare? How to convince the performers about the sense of Pmed, and after that to encourage them to become more active in taking their role in informing/communicating the general public and the potential patients. Then the logical question that arises is whether EBF's aim to educate the general public can still be reached by educating the intermediaries first or alternatives should be considered, such as educating the public directly (e.g. through PR & SM) or through other groups.

There are doubts if the objective of the research can still be measurable and reached however, let's assume that the healthcare professionals could be influenced.

Other key bottleneck is that at the EBF annual conferences the three important groups in which the EBF is interested in – doctors, hospitals and insurance companies are not present. This is a barrier in the communication process between EBF and the three groups of healthcare professionals which is an obstacle for educating and engaging them and general public.

The next bottleneck is that healthcare professionals cannot take the decision about adopting Pmed because it is not social-optimal. For them it is too expensive and can't guarantee initiatives. Here, government intervention is required to introduce nation-wide policy on Pmed adoption.

Another key bottleneck is that the project conducted by EBF is only four years which is a limited time and maybe this will not be a sufficient period to bridge the gap between research funders and policy makers to overcome the challenges of Pmed which will lead to not implementing personalised medicine in EU.

A bottleneck that can be an obstacle for reaching the goals is that EBF and the three groups of healthcare performers has limited insight of what are the public needs; they have ideas and insight what the patients think, know and do reading Pmed . However, more involvement is needed in order to make them aware and engage them on social media in terms of Pmed. Social media empowers patients and they are becoming more healthcare literate so the key healthcare performers (doctors, hospitals & insurance companies) should have and not only this thing in mind.

A huge obstacle can be if healthcare professionals are not communicating actively and properly with general public on social media about Pmed; this can lead to resistance of adopting the technology since the public is not engaged. However, this leads to another obstacle which is the ethical issues - laws which limits communication between healthcare providers and their patients – limits insurance companies, hospitals, doctors – to answer specific question or discuss specific healthcare information across social network.

Other bottleneck is that currently most of the healthcare professionals are not using traditional marketing methods (e.g. adds, posters, brochures, leaflets etc.) together with contemporary marketing methods (social media)to communicate about Pmed. In that way general public will not know that there is information about certain topic especially if it is niche such as Pmed on social media and will not look for it.

Last but not least important bottleneck is that the rhythm of implementation & changes in old behaviour is not equally supported by different cultures/countries which should be kept in mind because this change needs time and patience.

In the next part – Literature Review key factors for successful social media on healthcare and for influencing healthcare professionals – opinion leaders/intermediaries are explored.

## Chapter III: Literature Review

## 1. Relevant Literature

In the Literature Review section a literature in relation to social media and healthcare communication is examined in order a social media strategy to be developed for the opinion leaders – doctor, hospitals and insurance companies via which they will generate awareness and engagement among general public about Pmed.

However the other aspect remains since it is the first step before the social media strategy. This is the opinion leaders' perspective, which includes doctors, hospitals, insurance companies to be influenced and motivated by EBF so that they are willing and motivated about the Pmed concept, and to encourage them to become more active in taking their role in informing the general public/potential patients. Due to the limitations of this research paper the focus will be on the social media strategy, however in the literature review part key successful factors for raising interest, awareness and motivation with intermediary group of opinion leaders in healthcare will be provided and answers to some questions will be explored. The two key questions for literature review are:

## 2. Key factors and theories for influencing healthcare professionals/opinion leaders/intermediaries

- *In what way do opinion leaders (intermediaries) adopt new practices and support new ideas?*
- *What are the key factors for convincing them to raise awareness, show interest and motivation in regard to Pmed?*

In order healthcare professionals to be well educated, motivated and interested in Pmed they have to be convinced that they have a reason to adopt this new practice. In healthcare sector professionals are constantly going to additional courses to obtain higher professional specialisation and qualification since a lot of changes are happening and they have to be competitive and knowledgeable.

Personalised medicine is the future of healthcare and that is the direction to which all healthcare systems will be going. It is extremely complex process since a lot of coordination between various stakeholders is needed however this will be the new way for healthcare treatments. So if healthcare professionals want to be successful and qualified in their job they have to obtain knowledge and



education in Pmed. Since this is the future of their career and healthcare sector, after communication this message across, their interest will be captured. (EBF, 2013)

A good strategic approach for spreading the communication message will be to direct the engagement into the existing channels that they use to update their knowledge and education. These channels are for example: reading medical journal and participating on professional seminars, conferences , courses (online, offline) to advance their knowledge.(EBF, 2013)

Another channel is the currently launched new project by European Commission - a new web portal on health research in Europe “The Horizon Health Web Portal” ([www.commhere.eu](http://www.commhere.eu))

The portal aims at informing and educating general public on healthcare research and health related topics. EBF is in contact with the coordinators of the portal in order to seek collaboration and enhance the communication to the public. European Commission realizes that only research in this sphere is not enough and Professor Anne Glover, Chief Scientific Advisor, European Commission says: “Research not communicated is research not done”. Their studies showed that European citizens are interesting in learning and obtaining information about medical developments from researchers. (CommHERE, 2013)

Based on the literature review the following strategic approaches could be used in addition to the above mentioned points:

- Healthcare professionals trust each other (influenced by peers) more then they trust other institutions or organisations

And since currently, there is growth in networks among healthcare professionals, these networks can be used for interaction among healthcare them and to spread the communication messages. These networks have success because there is a respect to the opinion of the peers among healthcare professionals. (Engagement Strategy, Healthcare, 2013)

- Experts add credibility

It is not a must that opinion leaders should be healthcare professionals but they should definitely be a credible, trustworthy experts. They can also find an easy and appropriate way to capture the attention by using various channels such as: published forms or through the networks of healthcare professionals, conferences etc. (Engagement Strategy, Healthcare, 2013)

- In order to succeed in influencing healthcare professionals an understanding about how influence works is required and this means to figure out what influence consist of. There are several important elements of influence but they are not only abstract concepts but rather tangible parts which are needed for every organisation in order to have influence over other parties. (Salesforce, Marketing Cloud Blog, 2013)
- The first element is TRUST - that is the basis of every stable relationship - trust have to be build. (Salesforce, Marketing Cloud Blog, 2013)
- The second element is AUTHORITY – this is about being smart and trusted advisor. (Salesforce, Marketing Cloud Blog, 2013)
- The third element is VALUE – this simply means “what is in for me”, people ask this question; to get people on the other side something for a value should be given to them – doesn’t matter if it is tangible or not - it has to make people move towards the action. (Salesforce, Marketing Cloud Blog, 2013)
- The fourth element is CONNECTION – this is pretty hard, to make true connection; you cannot connect with everyone however; the beliefs that you hold will resonate with beliefs of people. (Salesforce, Marketing Cloud Blog, 2013)

### **3. Key factors and theories for successful social media on healthcare**

In this section answers to several research questions which can’t be answered in Situation Analysis are provided such as: *What are the criteria for effective social media on healthcare for doctors, hospitals & insurance companies ; What are the successful factors for an effective social media which will lead to people’s engagement and generate awareness; What it is the role of social media on healthcare communication; How/In what way social media changes the access to medical knowledge and exchange of healthcare information;*.

The role of social media on healthcare communication and the way social media changes the access to medical knowledge and exchange of healthcare information is illustrated in the next paragraphs. Social media has definitely the ability to transform healthcare landscape and it is already doing it. To begin with social media is all about two things - *relationships* and *communications*.

### ➔ Relationships

First, talking about relationships it is clear that social media platforms such as Facebook and Twitter are about sharing and interaction and those are the basis of relationships. Medicine and healthcare are all about relationships too. If you have a good relationship with the healthcare providers both sides listen and talk more and subsequently when you trust them you will follow their advice. With launching social media strategy doctors, hospitals and insurance companies will have the opportunity to have conversations with the general public/patients on social media networks and in that way make relations or strengthen them. (McCarthy, C. 2012)

### ➔ Communications

Second, talking about communications it is obvious that more on-going, real-time communication in health care is needed and specifically a dialogue. Communication is helping people and healthcare performers to learn things from each other - on social media not only patients can learn from healthcare performers but also healthcare performers can learn from patient. An example for that is medicine changes, the general public/patients are actively involved in social media so they can quickly understand and learn something from social media networks. (McCarthy, C. 2012)

What social media is doing is taking science and technology (healthcare & social media) and blends them with two essential human needs – *relationships* and *communication*. (McCarthy, C. 2012)

Social networks can enhance communication, collaboration, information collection and sharing in healthcare sphere. The social networks hold considerable value for healthcare professionals because they can use them to reach various stakeholders, general public, as well as to force communication flow, to gather information and stimulate collaboration. What social media does is spreading media for instance video, blogs , audio etc. among groups of people who are linked in some way, who have common characteristics (family, friends, job, school, hobbies etc.).

These days, social media is of growing in importance and have a vital role in healthcare sphere. General public is using social media about healthcare information, some of the healthcare professionals are already involved in social networks however they are still not so active and others are not present at all. Today, healthcare performers can make a big use of social media in order to engage public and make it aware since it is out there on social media networks. (Keckley, P. 2010)

More people nowadays are using social networks to look for healthcare topics and in that sense healthcare performers have the opportunity to interact with the members of the social media networks. Social media is a trend that can change the face of the healthcare. (Keckley, P. 2010)

Social media networks turn out to be an effective way to expand reach, encourage engagement and increase the access to trustworthy and valuable health messages and can connect numerous voices and in that way to:

- Increase the distribution of timely, regular information on healthcare
- Personalise health messages that are specifically personalised for the public
- Stimulate active communication, relationship and engagement with the public
- Make patients powerful/educated

(Liesbmann-Smith, J. (2012)

The following criteria for effective social media strategy they can be applied for social media on healthcare which aims at making general public/patients engaged and aware of personalised medicine. Successful factors for an effective social media strategy are the following:

➔ Relevant/Appropriate Content

It is crucial for doctors, hospitals and insurance companies to start communicating on a particular healthcare topic, subject that is chosen primarily. The content should be specific - relevant content is required in order people who need the specific information to be reached for making them aware and educated. If the social media strategy is arranged around clearly define goals and messages in that way a personal connection between the healthcare professionals and general public/patients can be established. (Scott, M.D, 2010)

Since every platform and channel doesn't have the same characteristics this leads to concluding that the way of communicating and distributing messages is also different. There are some key attributes that maximize social media benefits to the public and two of them are: personalisation – tailoring the content of individual needs and making timely and relevant content accessible on various social media platforms and channels. (Scott, M.D, 2010)

This is an effective possible solution for doctors, hospitals and insurance companies. However, further on, in the in-depth research I should discover what content on personalised medicine is appropriate and suitable on topic and what are the specific online platforms and channels that the general public is using.

➔ Engagement

This is other key characteristic since general public/patients should be engaged and takes part of the whole interaction and discussions on social media about personalised medicine otherwise social

media strategy is nothing without public participation. General public/patients should feel sense of belonging, they have to feel that they are part of the whole communication flow and discussion regarding personalised medicine. A key attribute that maximizes social media benefits for the public is the participation – involve public who will contribute content in meaningful ways. (Turner J. 2010)

For doctors, hospitals and insurance companies to engage the general public online a starting point is required. Talking in terms of traditional marketing this is a concept called snowball effect. Talking in relation to the online marketing, this is called circular momentum effect. The result of using the concepts is more customer-generated content (Howard, 2010).

In the social media strategy the personal moment should be clearly seen. For a good and strong relationship with the general public, doctors, hospitals and insurance companies has to listen to them, give responses and provides with a feedback. A true and honest dialogue is important for a trust be created. A place where people can express opinion on health-related topic/issue; share feelings, symptoms; asking for advice for their health; obtain knowledge, connect with other people/patients and share experiences . (Kerpen, D. 2011),

This may be another effective possible solution that doctors, hospitals and insurance companies since social media strategy including this characteristic can lead to rising awareness about personalised medicine topic. However, further in-depth research I have to find out what the general public/patients already know, do and think about personalised medicine and in order to understand how they can be engaged and educated via social media.

#### ➔ Functionality

Being on multiple platforms and channels is a crucial factor for developing strong and successful social media strategy. Multi-platform means being available across multiple platforms and channels on social media. (Turner, J. 2010)

For the success of a social media strategy the right channels have to be chosen. Doctors, hospitals and insurance companies should be active online on various social media platforms and channels which are interconnected, they should circulate in social media. The platforms and channels have to be integrated – an example for that is the website of the healthcare professionals should be linked and connected with social media networks which general public is using. The conversations on social media platforms and channels will be successful if using an approach called hub-and-spoke in the conversations with the general public. (Turner, J. 2010)

This may be an effective possible solution for the healthcare professionals since they are not really active online or if they are - there isn't an integration of online platforms. However, further on, in the in-depth research information about what social media platforms and channels the general public/patients prefer to use when it comes to healthcare, knowing this a conclusion what are the appropriate ones for usage can be drawn.

➔ Combining traditional marketing efforts and contemporary marketing efforts

An effective and successful social media strategy can be accomplished by combining it with traditional marketing methods. Using traditional marketing lead to higher awareness about the subject/topic and trigger people to go on social media networks. In most of the cases if traditional marketing methods are included in contemporary marketing efforts the possibility for desired results to be reached is bigger. If traditional marketing methods are not used, the general public will not be aware of that there is a discussion on this niche topic as the personalised medicine is and they will not look for information about it on social media networks. (Turner, J. 2010)

This may be very helpful for doctors, hospitals and insurance companies since they are not active in traditional marketing as well as contemporary marketing. Since the awareness about personalised medicine is low the three groups of healthcare professionals may apply traditional methods which lead to high awareness regarding the topic and then drive people to their online presence. However, further on, in the in-depth research information about if the three groups of stakeholders are using traditional marketing methods to communicate on healthcare and Pmed.

For an effective social media on healthcare several criteria are established:

➔ Participate

After the listening - the first step for healthcare professionals embracing social media, comes a participation. Active involvement and managing data collected is necessity for catching the coming opportunities. Participation involves proactively posting and publishing content on social media networks to communicate messages to the audience. It leads to education of the general public and communication towards it. (PwC Report, *Social media "likes" healthcare .From marketing to social business Report, 2012*)

## → Engage

The meaning of engaging is to have a meaningful and active presence on social media networks. Social media provides a place for interaction - it is not static place such as website that is developed once and then just updated. Engagement includes actively interaction and conversations between people – ongoing dialogue which is two-way. Doing this on social media an information is exchanged and a beginning of discussions are put. (PwC Report, *Social media “likes” healthcare .From marketing to social business Report, 2012*)

Key factors were established in the Literature review for raising awareness, interest and motivation of professional intermediary group of opinion leaders in healthcare and how to convince the performers about the sense of Pmed, and after that to encourage them to become more active in taking their role in informing/communicating the general public/potential patients. Then the logical question that arises is whether EBF’s aim to educate the general public can still be reached by educating the intermediaries first or alternatives should be considered, such as educating the public directly (e.g. through PR & SM) or through other groups. This is investigated and answer to the question is provided in the in-depth research part.

*The Literature Review section provided answers to many questions, however some still left unanswered. These are questions that can only be answered by using in-depth research analysis . In the next chapter, in sections Findings and Conclusion, insights from in-depth research per topic/theme regarding research questions are given.*

## Chapter IV: In-depth Research Methodology



The dilemma on the willingness and motivation of healthcare professionals to communicate on social media with general public about Pmed is explored deeper in next two chapters - in-depth research methodology and analysis since they are not even themselves much aware, educated and qualified but the focus is on the recommendations for social media strategy and accepting that more research will be needed but due to the limitations of this project it is not feasible to explore all this.

From the preliminary research some information is already available such as the nature of the problem. A valuable information and insights from the Situation Analysis and Literature review was derived. However, additional field research is required because the already given information is not sufficient enough to draw deep recommendations.

For the in-depth research there are nine main in-depth research questions. These questions consist of abstract concepts which should be made measurable in order valuable and in-depth insights to be derived from them. Otherwise these questions were directly asked as they are listed here, predictable answers which will not lead to new knowledge would be derived. Further on in this section operationalisation of these questions is provided; this means the abstract concepts are defined to become measurable.

## **1. Conceptual Design**

### **1.1 In-depth Research Questions and Research Objectives (why I chose those questions?)**

*The nine key in-depth research questions are the following:*

- **What do doctors, hospitals and insurance companies already know, think and do regarding personalised medicine?**

The objective of the research question is to discover what the knowledge of doctors, hospitals and insurance companies is in terms of education, skills, budget, time, equipment for implementation of personalised medicine and communication regarding to the topic. As well as what is their opinion about personalised medicine concept and if they do/communicate somehow about it. This information is necessary to be discovered because information about their needs, interests and objectives will be discovered.

- **What do doctors, hospitals and insurance companies know and think in terms of healthcare and personalised medicine on social media?**

The objective of the research question is to give an overview of what is the opinion and knowledge of the healthcare professionals regarding healthcare and personalised medicine on social media networks. The information is essential to be discovered because the level of awareness as well as the

opinion and activities the healthcare professionals undertake are essential factors need to compare the current situation to the criteria for effective social media on healthcare in order reliable and real recommendations and conclusions to be delivered.

- **What is being communicated on social media networks by healthcare performers (doctors, hospitals & insurance companies) in terms of healthcare and about personalised medicine?**

The objective of the research question is to find out what the three groups of healthcare performers are communicating on social media in relation to healthcare and personalised medicine. In that way a comparison between what they are doing and what they should do and communicate on social media based on the established criteria can be made and valuable recommendations for effective social media on healthcare can be given.

- **What does general public/patients already know, think and do regarding personalised medicine?**

The objective of this research question is discover what general public know, think and do in terms of the level of awareness regarding the topic, what they understand and if they are looking for information about personalised medicine. In that way a data about their needs and interests will be found out. This information is important because insights for the target group's attitude, behaviour and knowledge will be derived.

- **What does the general public think and do in terms of healthcare on social media?**

The objective of the research questions is to find out what is the opinion of general public about healthcare information/Pmed information on social media; if they believe that this is good, valuable and useful as well as if general public is using social media for healthcare purposes, in what way – what they are looking for, what are they communication. The data derived from this questions lead to insights important for establishing a successful social media on healthcare.

- **If EBF has any realistic influence over the healthcare professionals**

The objective of the research question is to find out if EBF can influence healthcare professionals in order to make them interested, motivated and knowledgeable about Pmed. This is important to EBF discovered because based on the result it can be seen if EBF should take this role for educating and motivating healthcare professionals or it not and if not, then consider alternative strategies to do that.

- **Do the healthcare professionals has the motivation and ability to use social media on this topic**

The objective of this research question is to be discovered if healthcare professionals has the required skills and abilities to make use of social media ad if they are motivated to do so. This is key information to be find out since from understanding this it can be concluded if EBF should still consider healthcare professionals appropriate people for communication to the general public about it or not and also if they should need training and education on it.

- **Does the EBF's aim to educate the public can still be reached by educating the intermediaries first, or whether alternatives should be considered, such as educating the public directly (e.g. through PR & SM) or through other groups.**

The objective of this questions is to find out if EBF can educate intermediaries(healthcare professionals) first in order after that they to start communicating to general public or forget about this and other alternatives to be considered. This is vital to be discovered since EBF should have a realistic insight on which way to sue in order tor each its goal.

## 1.2 Operationalisation

### **1. What do doctors, hospitals and insurance companies already know, think and do regarding personalised medicine?**

To make this question measurable and to discover what the healthcare professionals know, think and do regarding personalised medicine the abstract concepts “know”, “think” and “do” should be made into measurable units. The concepts that will be measured then are:

#### Know

- Education (meaning necessary qualification for Pmed)
- Skills (meaning necessary practice for implement Pmed in daily practice)

#### **And now the right in-depth question is:**

1. Do doctors, hospitals and insurance companies have the education and skills which are needed to implement personalised medicine in your area of operations?

#### Opinion

- Opinion
- Awareness

#### **And now the right in-depth question is:**

1. Are you aware of/ familiar with personalised medicine concept? And what is your opinion about the concept called personalised medicine and implementation of it?

#### Do

- Undertake

#### **And now the right in-depth question is:**

1. Do you undertake any activities such as going to specialised courses to get the required education and skills to put Pmed in practice?

### **2. What do the three groups of healthcare professionals think and do in terms of healthcare and personalised medicine on social media sphere?**

To make this question measurable and to discover what the healthcare professionals think and do regarding healthcare and personalised medicine on social media sphere the abstract concepts “think”, “do” should be made into measurable units. The concepts that will be measured then are:

#### Think

- Opinion
- Willingness

#### **And now the right in-depth questions are:**

1. What is the opinion of healthcare professionals about healthcare information spread on social media networks nowadays?

2. Do doctors, hospitals and insurance companies willing to communicate on social media sphere about Pmed?

Do

- ➔ Undertake
- ➔ Conduct

**And now the right in-depth questions are:**

1. What activities you as an expert undertake in order to communicate about personalised medicine to the general public on social media.
2. Do you communicate with the general public in terms of spreading healthcare and/or concrete information about personalised medicine? If "YES" – can you name any specific steps that you already undertook?
3. Will they feel comfortable to conduct activities on social networks such as to connect and interact with the general public/potential patients regarding health-related topics and specifically about personalised medicine?

**4. What does general public/patients already know and do regarding personalised medicine?**

To make this question measurable and to discover what the general public know and do in terms of Pmed the abstract concepts "know" and "do" should be made into measurable units. The concepts that will be measured then are:

Know

- ➔ Awareness
- ➔ Information

**And now the right in-depth question is:**

1. Is the general public aware of personalised medicine concept? / What information do the general public have about personalised medicine?

Do

- ➔ Look for information ( meaning ask experts/ seek for information in the media)

1. Is the general public looking for information by asking you directly as an expert or by trying to find information on social media networks?

**5. What does the general public think and do on social media about healthcare?**

To make this question measurable and to discover what the general public know and do on social media in regarding healthcare the abstract concepts "think" and "do" should be made into measurable units. The concepts that will be measured then are:

Think

- ➔ Opinion (meaning the view of general public about healthcare information on social media)

**And now the right in-depth question is:**

1. Would you like the idea of finding valuable information on social media about healthcare topics?

Do

- ➔ Seek for information on social media about healthcare and Pmed
- ➔ Communicate on social media about health-related topics

➔ Educate in healthcare/Become health literate

**And now the right in-depth questions are:**

1. Do you seek for information on social media about health-related topics and personalised medicine?
2. Are you communicating on social media about health-related topics with other people or healthcare professionals?
3. Do you educate yourselves /become health literate regarding your health on social media sphere

**6. Do doctors, hospitals and insurance companies have the required resources which are needed in order to implement personalised medicine?**

To make this question measurable and to discover if the healthcare professionals have the required resources abstract concept “resources” should be made into measurable units. The concepts that will be measured then are:

Resources

- ➔ Money/Budget
- ➔ Team
- ➔ Time
- ➔ Equipment

**And now the right in-depth question is:**

Do you have budget, time, team and equipment in order to implement personalised medicine?

**7. Does EBF has any realistic influence over the healthcare professionals?**

To make this question measurable and to discover if EBF can influence somehow healthcare professionals to be interested and motivated in Pmed the concept “influence” should be made into measurable units. The concept that will be measured then is:

Influence

- ➔ Impact

**And now the right in-depth question is:**

Could EBF have an impact on education and making healthcare professionals aware of Pmed?

**8. Do the healthcare professionals have the motivation and ability to use social media on this topic?**

To make this question measurable and to discover if the healthcare professionals are motivated on social media and if they have the abilities to use it the concepts "motivation" and "ability" should be made into measurable units. The concepts that will be measured then are:

Motivation

- ➔ Willingness

**And now the right in-depth question is:**

Are they willing to use social media on this topic?

Ability

- ➔ Competence
- ➔ Skill

**And now the right in-depth question is:**

Do they have the competences and skills to use social media for communication on this topic?

**9. Does the EBF's aim to educate the public can still be reached by educating the intermediaries first, or whether alternatives should be considered, such as educating the public directly (e.g. through PR & SM) or through other groups?**

To make this question measurable and to discover if EBF can educate intermediaries who subsequently to educate general public by communication with them the concept "education" should be made into measurable units: The concept that will be measured is:

Education

- ➔ Aware
- ➔ Knowledgeable

**And now the right in-depth questions are:**

Could EBF make intermediaries aware and knowledgeable about Pmed concept or should EBF consider other alternatives for communicating with general public?

## 2. Technical Design

### 2.1 Research Strategy

The research strategy for this research project is *Case Study Strategy* because the task is provided by one assignment provider - one company. This strategy offers depth and detailed insight; the case is studied in its natural environment. This strategy aims at changing a situation and in the case - make (better) use of social media by doctors, hospitals and insurance companies. Within this strategy full range of research methods can be used.

## **2.2 Research Material**

The information is gathered through different sources such as experts – interviews with representatives from doctors, hospitals and insurance companies; existing research – surveys, questionnaires; specialised medical reports and journals, books; data about the topic in the media sphere; communication flow regarding the topic in media sphere.

## **2.3 Research Methods**

The chosen research methods that will be used are extensive desk research, additional literature review and interviews with experts and observation.

These methods were the most suitable for the aim of this research project for giving answers to the research questions which will lead to achieving the objective. First observation was an appropriate method because it provides information on behaviour - a real insight about what public and the three groups of healthcare professionals communication regarding the topic can be derived. Second proper method for this research project is interviews with healthcare professionals; they will give an in-depth data and insights from the experts in terms of personalised medicine, social media presence and general public's knowledge, feelings and thinking. Third an extensive desk research and additional literature review was suitable because a reliable data from many medical reports, journals can be extracted – a trustworthy and reliable information.

## **2.4 Research Planning**

The observations are conducted during the communication analysis and in-depth research analysis where data from observing the social media and communication flow regarding the topic is necessary.

The interviews were distributed to two representatives from the two healthcare professionals groups – doctors and insurance companies. They were executed during the research project after obtaining the data and insights from Situation Analysis and Literature Review in the section – in-depth research analysis.

After the desk research and literature review were executed, an extensive desk research and additional literature review were conducted. Many additional sources were scanned, read and analysed in order more and detailed information to be gathered.



## Chapter V: In-depth Research Analysis

In this chapter an overview of the key facts discovered by doing In-depth research will be given. This part provides a clear storyline by topics and themes based on the questions from in-depth research analysis - conceptual design.

## **1. Findings**

*1.1 EBF influence over the healthcare professionals. The EBF's aim to educate the public reached by educating the intermediaries first and other alternatives to be considered, such as educating the public directly (e.g. through PR & SM) or through other groups.*

- ➔ Several of them have skills and knowledge to communicate on healthcare related topics on social media; some are willing to do so, others not; some use social media only for personal use - communicating with their colleagues – many of the healthcare professionals are willing, motivated and have the ability to use social media
- ➔ Others need information and involvement in order to start using it to communicate with people on healthcare related topics
- ➔ After conducted research EBF understood that healthcare professionals are not knowledgeable, educated and aware enough about Pmed which lead to the conclusion that it cannot count on them for communication with general public on this topic.

There are several options and approaches that EBF can use to and in this paragraph they will be discussed.

- ➔ One of the approaches is direct PR strategy. This means that EBF can directly use general media/ traditional media itself to communicate about Pmed to the public.
- ➔ The other approach is direct SM strategy which means EBF directly informing and educated general public using social media.
- ➔ Another approach that is option for EBF to use is keep the idea of using other groups to engage and make general public aware of Pmed however change the groups – not healthcare professionals but consider another ones such as patient groups and patient organisations.

- ➔ The last approach is using/influencing healthcare professionals as opinion leaders/intermediaries to communicate with general public using two new projects - the first one which is pilot project of EBF together with EPEMED as a partner – educating 1, 000 doctors and the second one is the project from European Commission for new web portal on health research in Europe for informing and educating general public.
- ➔ EBF connecting with separate work association which represents all healthcare professionals. EBF could organize special informing, motivating and engaging meetings to foster dialogue and collaboration with them

## **1.2 The knowledge, opinion and behaviour of the healthcare professionals (doctors, hospitals and insurance companies) about Pmed**

The findings from preliminary and in-depth research illustrate that:

- ➔ Only some of the healthcare professionals talking about (doctors, hospitals and insurance companies) have the knowledge, skills and resources to implement it and most of them
- ➔ In the expert interview with Dr. Meike Vernooij, in relation to that if she has education and skills required for Pmed to be implemented, she said:

*“Partly. I am trained in public health and epidemiology and from that perspective have the skills for prevention in personalised medicine. Furthermore, I work as a clinical radiologist, and we use diagnostic tools (e.g. perfusion of brain tumors) that can be used for personalised therapy and prognosis.”*

In terms of the resources (time, money, team) she said: *“No. When evidence-based tools for personalised medicine will become available, this will be more time consuming (in the beginning) to implement. People not be trained, extra measurements will be needed for patients and this will be more costly; in this era of budget cuts that may be a problem.”*

- ➔ Personalised medicine concept is still a distant term to many of the healthcare professionals.
- ➔ Healthcare professionals don’t have the required knowledge, tools and resources which are needed in order to be implemented solutions in terms of Pmed. (PwC “Personalised Medicine in European Hospitals,2011)

### **1.3 The knowledge and opinion of the healthcare professionals (doctors, hospitals and insurance companies) about healthcare on social media networks; the healthcare professionals' motivation and ability to use social media on Pmed topic;**

- ➔ Many of the healthcare professionals do not have the knowledge and skills to use social media for communication with general public; what they have to say, how and a really important one why to use it

In the interview with Dr. Meike Vernooij on the questions if she will feel comfortable to use social networks to connect and interact with the general public/potential patients regarding health-related topics and specifically about personalised medicine she clearly stated that she will not feel comfortable.

- ➔ The majority of healthcare professionals think that they are not the people who are responsible for the communication with the general public, that this is not their role
- ➔ Other don't want to use social media for communication purposes with people because of privacy/ethical issues and some of them because they don't feel comfortable to use it for this purpose.
- ➔ Some use it only for personal use not professional or they only connect with their colleagues there not with general public

### **1.4 The Behaviour/communication activities of healthcare professionals in terms of healthcare and Pmed on social media**

Some doctors, hospitals and insurance companies are using social media to communicate, educate and make the general public/potential patients engaged in healthcare-related topics by undertaking various activities and different methods such as:

- ➔ Some use digital apps; games; online communities; giving advice; posting health-related data on Facebook, blogs; twitting.
- ➔ Others – the majority of them are not using social media to communicate with general public

However, talking in relation to personalised medicine from the preliminary and also in-depth research which consists of interviews with experts, there is no sign that the three groups of healthcare professionals – doctors, hospitals and insurance companies are communicating about it on social media.

## **Doctors**

- ➔ More doctors are using social media to interact and meet general public/potential patients and colleagues as well as to obtain information – they are using Twitter, Facebook, blogs and personal websites. (Liesbmann-Smith, J. 2012)
- ➔ More doctors are starting to use Facebook, Twitter, LinkedIn, blogs and other social media networks for personal purposes however in terms of professional purposes less are using social networks. (QuantiaMD Report. Doctors, Patients & Social Media, 2011)
- ➔ Some of the doctors answer medical questions through social media but they are concern about privacy issues. They are suspicious about engaging with patients on social media because online autonomy is never guaranteed and they think that personal questions still have to be discussed in doctors' office or phone calls. (QuantiaMD Report. Doctors, Patients & Social Media, 2011)
- ➔ Other doctors use innovative and creative ways to use social media networks - they posts success stories and notes from patients and explanation of the procedures and treatment.
- ➔ Several use Facebook for interaction with patients through polls - doctors and patients engaged in conversations based on the comments and questions that they post. The paediatrician Natasha Burgert offers tips and advice on her blog, Facebook and Twitter and give answers to people's questions using email and text messages. (QuantiaMD Report. Doctors, Patients & Social Media, 2011)
- ➔ 28% of doctors use professional medical communities to learn from colleagues and experts(QuantiaMD Study, PwC report , *Personalised Medicine in European Hospitals Report, 2011*)

- ➔ Some doctors confirm the benefit of digital interactions with the general public/potential patients for the improvement of the quality of care and access to medical information but many of them are concern about ethical and privacy issues. (QuantiaMD Study, PwC report , *Personalised Medicine in European Hospitals Report, 2011*)
- ➔ Some doctors use social media to communicate with colleagues and there is little or no interaction between doctors and patients on social media. (Terry, K. 2012)
- ➔ Some doctors are unwilling to engage patients via social media because they are afraid that the health-related information they provide can be “taken out of the context and interpreted as medical advice”.( Caitlin Lorincz, 2012); they are afraid of ethical and legal issues. (Terry, K. 2012)
- ➔ There are also doctors who encouraged patients to join independent online communities such as LeukaNet in Germany, HealthUnlocked in the United Kingdom or PatientsLikeMe in the Unites States. (Terry, K. 2012)
- ➔ A number of Doctors are adopting social media to create better awareness and engagement among general public/potential patients. (Haupt, A. 2011, November 21)
- ➔ An example for a doctor using social media: the orthopaedic surgeon Thomas Lee who is active in tweeting, checking and using Google Plus. And all this he does it for his patients. Lee says, “It is electronic way of extending the conversation, it creates a vibrant sense if community and a wonderful back-and-forth dialogue”. (Haupt, A. 2011, November 21)
- ➔ The doctors who adopt social media to interact with general public still have uncertainties and for sharing much information, the type of shared content and the appropriate way to engage because of the privacy issues. (Haupt, A. 2011, November 21)
- ➔ There is a group of physicians called “connected physicians” which consists of doctors who are enthusiastic and willing to use social media to improve healthcare. They are sending text messages containing health content to patients, using Twitter to track trends in disease and using Facebook to share links, articles and discover medical problems. (West, D. 2012)

## Hospitals

- ➔ Some hospitals' websites and their involvement in social media networks such as Facebook, Twitter, YouTube, blog etc. have the unique ability distribute information to the general public from boring, ordinary facts to medical breakthroughs. (Liesbmann-Smith, J. 2012)
- ➔ In the healthcare sector, hospitals are adopting and implementing social media networks to engage with general public faster than any other healthcare performer. Countries such as Netherlands, Norway, Sweden, the United Kingdom are moving fastest, The United States and Australia – they are at the mid-range of adoption and Switzerland and Germany - the low adopters. (Terry, K. 2012) (CSC Report, 2012)
- ➔ The hospitals presence on social media is the following: Twitter (65%), Facebook (54%) and YouTube (50%) , the hospitals that indicate to have corporate blog (33%). (CSC Report, 2012) (Terry, K. 2012)
- ➔ Some hospitals focus only on their own websites which they use for posts and updates about news concerning hospital itself and medical services as well as information about administration, staff, events etc. (CSC Report, 2012) (Terry, K. 2012)
- ➔ There are hospitals which choose their websites to emerge with social media in order to have a dynamic, two-way dialogue which involves patients, not only a static monologue - instead of being organisation-driven they become consumer-driven.(CSC Report, 2012) (Terry, K. 2012)
- ➔ Some hospitals are using social media for reasons such as: education and wellness programmes; crisis communication; peer-to-peer information sharing; employee and volunteer recruitment; clinical trial recruitment and other research and public relations and marketing. (Liesbmann-Smith, J. 2012)
- ➔ Several hospitals are using social networks it to post patient stories and notes, their hospitals are also using online communities to engage general public in care processes. (PwC Report, Social media “likes” healthcare. From marketing to social business, 2012)

- ➔ There are hospitals which launch blogs – some with broad a content, others are specifically about diseases (Sharp, J. 2012)

## **Insurance Companies**

- ➔ Chilmark Research is saying that insurance companies are turning to social media, health gaming apps, and other mobile health apps to raise patient engagement. (Chilmark Research 2013) Though, this is still a new phenomenon, and most payers are still sitting on the side. (Terry, K. 2012)
- ➔ One of the largest insurance Aetna is adopting social media. The company is integrating several social health platforms because their aim is to make a difference. It offers a Life Game to people - a game conducting online which engage people and gives them an opportunity to achieve their personal health and wellness goals online. (PwC, “Social media ‘likes’ healthcare: From marketing to social business” report, 2012)
- ➔ A Blue Cross Blue Schield insurer which uses Facebook and Twitter to develop the relationships with general public.( PRNewswire, 2013) It offers to the people a wellness app which engage patients in preventive and chronic care and based on the collected personal health data and advices people how to meet their health goals. It also has an app which is focusing on increasing of physical activity and it helps people to meet their physical and mental challenges. (Terry, K. 2012)
- ➔ Some of the insurance companies develop and use online health games and today around 15 social games from insurance companies are available such as: Aetna, Humana, Cigna, Highmark, and Kaiser Permanente. (Terry, K. 2012)
- ➔ What insurance companies are trying to do now is to adopt the social media, mobile app and gaming app which are specific to every person/patient to meet the consumers where they. (Terry, K. 2012)
- ➔ The insurance companies which are early adopters are leading and driving the market but they are not as far as they were expected. Most of them are still in the early stages despite of the fact their initiatives were launched 18 months ago. Now they are trying to figure out what works and what not. (Terry, K. 2012)



- ➔ HCCMIS understands the importance of adapting and accepting the emerging technologies and trends and it realizes that they can benefit to the engagement between the company and general public; also adopts social media in order to be closer to the experts and people. (PRNewswire, 2013)

#### *1.4 The knowledge, opinion and behaviour of the general public about Pmed*

- ➔ The general public/potential patients are not aware/educated and engaged in personalised medicine.
- ➔ From the expert interviews it can be seen that the experts' opinion is that the general public is aware to a certain extent about personalised medicine from newspaper articles but only from the oncology field since only there is information about it.
- ➔ The articles are only a few and rarely published in newspapers; niche - specifically about oncology - they are not for the mass public/general public but for niche audience.

#### *1.5 The opinion and behaviour of general public think on social media about healthcare*

- ➔ People are more and more engaging in healthcare-related topics on social media
- ➔ They use every kind of social media networks to look for information about healthcare, to connect with healthcare professionals, to interact with other people, to share symptoms etc.
- ➔ General public/potential patients trust social media and more and more they are using it as a trustworthy source for data and collaboration with healthcare professionals and other people.
- ➔ Some of them says they will trust more doctors, hospitals and especially insurance companies if they are on social media connecting with the people
- ➔ Social media presence of hospitals for instance will help them to make a choice and build their preference for specific hospital

## 2. Conclusions

The facts and findings in the previous paragraphs provide with valuable and deep insights on the situation around Pmed including the knowledge, opinion and behavior of healthcare professionals and general public about Pmed, their knowledge, opinion and behavior regarding healthcare and on social media and EBF influence over the healthcare professionals; the healthcare professionals' motivation and ability to use social media on this topic; the EBF's aim to educate the public reached by educating the intermediaries first and other alternatives to be considered, such as educating the public directly (e.g. through PR & SM) or through other groups.

From all the preliminary and in-depth research the findings clearly show that the real problem appears to be different from the problem which was established in the beginning. Most of healthcare professionals – doctors, hospitals and insurance companies themselves are not enough educated, knowledgeable and qualified on Pmed, let alone leave them communicate to general public about it on social media with the aim at making people aware and engaged. Most of them are also not prepared in terms of resources such as budget, team, equipment and time. So here comes the role of EBF to inform and motivate them on Pmed and only after that they can consider start communicating to general public about it. There is other options - to apply other approaches to reach general public – not using healthcare professionals as intermediaries.

By assessing the insights and applying information from of Literature review and in-depth research the following conclusions are derived.

One of the approaches that EBF can use is direct PR strategy. This means that EBF can directly use general media/ traditional media itself to communicate about Pmed to the public. It is a good and realistic option since it is not so time-consuming and complicated, however EBF project is funded by European Commission and the focus of the project is on EBF engaging and collaborating with various stakeholders but about policies, funding etc. and not communicating with general public.

The other approach is direct SM strategy which means EBF directly informing and educated general public using social media. That is also an appropriate, less time-consuming approach however here the case is the same – the focus of the project and the funding from European Commission is on different stakeholders groups and the main idea is to collaborate with research partners, funders, policy makers and not with general public.

Another approach that is option for EBF to use is keep the idea of using other groups to engage and make general public aware of Pmed however change the groups – not healthcare professionals but consider another ones such as patient groups and patient organisations. From the conducted research it can be concluded that patient groups and patient organisations are appropriate for reaching the goal of EBF.

Speaking about patient organisations they have close contact with the people and healthcare professionals and other institutions which means that they can make a good connection and collaboration between various stakeholders and institutions in healthcare sector which can lead to between communication flow and dialogue between them and easier and successful implementation of Pmed.

In terms of patient groups for some of them Pmed already play an important role for specific diseases such as : cancer treatments, heart disease, diabetes etc. Because they are already somehow aware can be seen as an appropriate intermediary for communication with general public.

However, EBF is not focusing on them because it truly believes that healthcare professionals are people who have to communicate about it to the people since people trust them and not only because of that but also because healthcare professionals are the most important intermediaries between EBF and general public. Without the adoption of Pmed from them it can not be implemented and used. Since the process of implementing and put Pmed into practice it is slow and not an easy one, EBF thinks it is time they to be involved and engaged because their role is of a key importance and there should be action there not waiting.

This means that EBF has to make them aware and educated so the logical question after this was if EBF itself has influence over the healthcare professionals in terms of motivating and educating them.

Interpreting facts by applying theories from the Literature review about how to influence opinion leaders/intermediaries and together with the in-depth research of EBF ideas, initiatives and abilities to influence, educate, inform and motivate healthcare professionals lead to a discussion about the desired approach from EBF but meantime realistic and appropriate.

EBF would like to use the approach which is healthcare professionals to communicate to general public about Pmed and realizes that another step is required to be done before social media strategy from healthcare professionals to be implemented. This step is these healthcare professionals to be educated about Pmed and EBF is currently working on pilot project which for year 2014 which aims at educating 1,000 doctors on Pmed. This project will be eventually executed together with project partners such as EPEMED (The European Personalised Medicine Association). An important aspect

here is how best to influence the healthcare professionals. Personalised medicine is the future of healthcare and that is the direction to which all healthcare systems will be going.

The other way by which EBF can connect with healthcare professionals and influence them is EBF is connecting with separate work association which represents all healthcare professionals. EBF could organize special informing, motivating and engaging meetings to foster dialogue and collaboration with them.

It is extremely complex process since a lot of coordination between various stakeholders is needed however this will be the new way for healthcare treatments. So if healthcare professionals want to be successful and qualified in their job they have to obtain knowledge and education in Pmed. Since this is the future of their career and healthcare sector, after communication this message across, their interest will be captured.

A good strategic approach for spreading the communication message will be to direct the engagement into the existing channels that they use to update their knowledge and education. These channels are for example: professional seminars, conferences , courses (online, offline), medical journals etc. on which they are participating to advance their knowledge.

Based on opinion leader strategy on healthcare theory the following can be applied to this specific case:

Healthcare professionals trust each other (influenced by peers) more then they trust other institutions or organisations. Currently, there is growth in networks among healthcare professionals, these networks can be used for interaction among healthcare them and to spread the communication messages. These networks have success because there is a respect to the opinion of the peers among healthcare professionals. So here comes the new initiative of EBF - the pilot project which aims at creating networking and educating first 1,000 doctors and then after evaluation these professionals to educate themselves other. EBF can also find an easy and appropriate way to capture the attention by using various channels such as: published forms or through the networks of healthcare professionals, conferences, courses, medical journals etc.

In order to succeed in influencing healthcare professionals an understanding about how influence work is required and this means to figure out what influence consist of. There are several important elements of influence there should be trust, authority, value and connection. EBF have to build these factors in order to successfully influence healthcare professionals .

The results from the findings show that some healthcare professionals don't want to communicate on social media about health-related topics because of ethical and privacy issues, several because

don't feel comfortable, some are communicating only on professional level and there are healthcare professionals who think that they are not responsible for that. However from the findings it can be clearly seen examples and statistics on many, many examples of healthcare professionals who are adopting and implementing social media for health-related topics. In order more and more healthcare professionals to start use social media, to be educated on how to use social media, to be informed and motivated which is discussed in the previous paragraph.

The findings also reveal that general public doesn't have the knowledge and awareness about Pmed and subsequently they don't think about it and don't look for information about it. However, general public is more and more using social media for health-related purposes and topics – social media is the place where they talk with other people and healthcare professionals about specific health problem, where they ask for advice, look for information to be aware and educated . So, here comes the role of the healthcare professionals – opinion leaders who should make use of social media networks to make general public aware and engaged on Pmed.

In conclusion, what can be said is that from all the preliminary and in-depth research, the facts and findings illustrate the need for stronger and deeper communication strategy - not only social media strategy since at this stage healthcare professionals cannot make use of it – it is just not realistic.

Chapter VI:

Recommendations / Communication Strategy

## **1. Overview**

Based on the research so far, it can be concluded that the healthcare professionals – doctors, hospitals and insurance companies – are not educated and qualified enough in terms of knowledge on Pmed. So, we cannot count fully on them for communicating with the general public on social media about it.

From this conclusion, it is obvious that developing a social media strategy only is not enough in order to reach the research objective.

EBF took the decision to firstly inform and educate the healthcare professionals about Pmed, and secondly to motivate them to use social media and give them recommendations on how to do that. This goes beyond the research objective which is developing recommendations on how to use social media – however, it is based on conclusions so it cannot be ignored. The healthcare professionals can start communicating on social media only after they themselves are well educated and knowledgeable enough about the Pmed concept.

## **2. Target group analysis - Description/Characteristics**

For this research project the healthcare professionals which are opinion leaders/intermediaries are the primary target group – which EBF should influence to be knowledgeable, motivated and informed in order to conduct communications on social media about Pmed to the general public.

The target group can be segmented on the demographic characteristic such as location - the scale is Europe and on socio-economic characteristic such as education – not knowledgeable and educated about Pmed and not knowledgeable and educated about Pmed. It is rather big target group and it is not homogenous and cannot be considered as a whole - the healthcare professionals can be seen as three groups – doctors, hospitals and insurance companies. This target group is not really easily accessible and cannot be easily reached with communication by EBF. The reason is that the healthcare professionals/opinion leaders are not participating in EBF annual meetings, community, network and ongoing dialogue between other key players/stakeholders in Pmed. However, EBF realizes the importance to have access and reach out to the healthcare professionals and that is why EBF team is working with other organisations on a new project which aims at engaging and educating healthcare professionals.

The target group can be segmented in the following way:

- Doctors – there are numerous doctors in all over the Europe, so it is not realistic to say that all of them will be approached at once; however they have specific work associations and representatives and they can be approached by groups; EBF initiated a the new pilot project with the working title “Educating 1,000 young doctors in Europe”. The project is envisioned to start in 2014.
- Hospitals – the hospitals are big entities which have to be approached in a specific way; it is not realistic to say that all the stuff in all hospitals in Europe will be approached at once; that is why it is wise to first approach the upper management - to inform, educate and motivate their engagement;
- Insurance Companies – they are coherent target group and can be easily educated, informed and motivated at once;

What EBF believes is that doctors, hospitals and insurance companies are responsible to make general public aware and engaged in Pmed, they are the opinion leaders who have to influence the general public. Last but not least, the healthcare professionals have also the ethical role in educating patients and the publics.

The following communication strategy has been developed and it shows how best to influence the healthcare professionals.

### **3. Communication Objectives**

#### **3.1 General Objective**

- ➔ Objective of the research report: provide a strategy on how healthcare professionals can make use of social media in order to generate awareness among general public about Pmed and engage them on the concept.

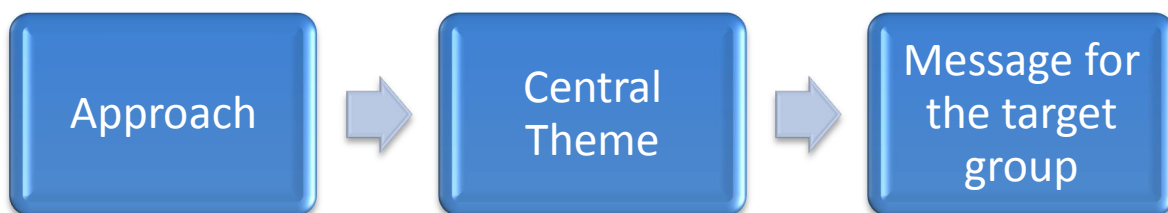
However in order this objective to be reached, first healthcare professionals have to be educated, knowledgeable, interested and motivated in Pmed. The following concrete objectives have to be reached first before the general objective can be accomplished. On the next paragraph a strategy and recommendations on how to be achieve that are being provided.



### 3.2 Concrete objectives

- ➔ After two years, 50% of the uninformed and uneducated healthcare professionals (doctors, hospitals and insurance companies) in Europe are aware, knowledgeable and qualified (i.e. meaning knowing what it is; how to implement and use it) on Pmed.
- ➔ After three years, 40% of the healthcare professionals (doctors, hospitals and insurance companies) in Europe are willing and motivated to use social media networks to communicate with general public to make it aware and engaged on Pmed.
- ➔ After four years, 35% of the healthcare professionals (doctors, hospitals and insurance companies) in Europe will know how to make use of social media in order to generate awareness among general public and engage it on Pmed.

## 4. Communication Strategy



### 4.1 Approach

EBF should influence - meaning inform and motivate - the opinion leaders (doctors, hospitals and insurance companies) to start communication on social media with the general public regarding Pmed. However, for this to happen, first EBF should inform and motivate them on Pmed concept itself.

The target group – doctors, hospitals and insurance companies – is rather complex, so it is not realistic to say that they will be approached by EBF easily.

Therefore EBF will approach them by connecting and communicating with the work associations of these three groups. Doctors, hospitals and insurance companies across Europe have a specific, separate work association which represents all healthcare professionals. EBF could organize special informing, motivating and engaging meetings to foster dialogue and collaboration with them. The launch of the new pilot project - educating the 1,000 young doctor which will help to reach them however EBF should consider also involving patient groups and organizations since they are

communicating with various stakeholders and most importantly with healthcare professionals and patients themselves.

A good strategic approach for spreading the communication message will be to direct the engagement into the existing channels that they use to update their knowledge and education. These channels are for example: going on professional seminars, conferences , courses (online, offline), and reading professional medical journals etc. on which they are participating to advance their knowledge.

EBF will also have to use traditional media to communicate about Pmed and influence opinion leaders – healthcare professionals. EBF communication on mass media can reach numerous doctors, hospitals and insurance companies and inform and motivated them on Pmed.

The approach towards the target group should be two-way traffic in other words a dialogue. Healthcare professionals should take pro-active position and look for changes in the environment, so that they can apply changes to decisions they take.

#### **4.1.1 Strategy for influencing & educating the healthcare professionals on Pmed. Recommendations on how this could be achieved.**

For a successful and effective strategy on influencing healthcare professionals meaning educating, informing and motivating them on personalised medicine the following recommendations are established.

EBF can motivate and make healthcare professionals aware by:

- Provide incentives for the education of healthcare professionals from the early stages of professional development
- Support the development of career in Pmed
- Establish of communications network to support interaction and training of healthcare professionals
- Enable rapid integration of knowledge about innovative, latest technologies and new scientific advances in education and training curricula

- Knowledge – is needed in this field and new profession profiles should be created; there should be open access to large data; healthcare professionals need to assess the right information at the right time and to correctly interpret the results in order to identify the right treatment.
- Education activities are needed – on relevant aspects of Pmed such as clinical case studies; a participation from all involve healthcare professionals is required;
- Trainings - there should be frameworks of training clinicians within Member States to ensure better and comprehensive understanding of the various stages of research and practice;
- Set up international teams under EBF and EPMA (European Association for Predictive, Preventive & Personalised Medicine) to reach the desired outcome of knowledge later on translated into medical practice;
- Set up international team of professionals to develop a programme in Higher Medical education applicable for Pmed to train healthcare professionals;
- Involve the patient groups and the patient organizations and assign a concrete role for them
- Create resources to help healthcare professionals to go with the advances in personalised medicine technology;
- Communicate a large vision of personalised medicine and its transformative potential;
- Conduct a series of personalised medicine audits among key stakeholders consisting of practicing clinicians, hospitals, insurance companies, medical school students and patient groups; improve performance on previously built feedback mechanisms, new information and insights;
- Work on integration of healthcare systems at European Level;

#### **4.1.2 Strategy for successful social media on healthcare (Pmed). Recommendations on how to do that.**

For a successful and effective social media strategy on healthcare which will lead to raising awareness and engage general public about personalised medicine the following recommendations are established.

Use various social media platforms and channels – being available across multiple social media networks in order to start a successful conversation with the general public.

1. Provide relevant content - tailor the content based on the needs of the people; talk about the particular topic – personalised medicine. The messages should be distributed timely and they should serve the function of making the target group aware/educated. Healthcare professionals should not publish information about specific cases/ should not reveal any customer data; they should not offer medical advice that medicines that require a personal/direct/face-to-face visit; Healthcare professionals should share information that has value.
2. Create culture of belonging – conduct discussions, interaction and participation so that people will become engaged on personalised medicine topic.
3. Consistency & Patience – communicate the same messages in all social media platforms and channels (there can be some difference because every platform and channel has different characteristics and kind of message however the main theme and idea should be the same). Be patient – the rhythm of implementation and change in the old behavior and thinking is a time-consuming process and it is different depending on people from different cultures and countries.
4. Establish legal, ethical and social standards – it is very important is to establish those standards for protection of the people and the organisations involved. And this should be done for every social media platform and channel.
5. Use forms of social media, such as video and blogging to generate awareness/educate target group on the topic.

6. Make relationships with the target group – go into conversations with them – real time, two way – so that trust can be build.
7. Listen – monitor and capture the conversations to analyse and understand what is the target group saying.
8. Participate – involve actively by proactively publishing content which will lead to generating awareness and educate the target group and establish dialogue.
9. Combine social media strategy with traditional marketing methods - only social media strategy is not enough; something has to make people go out there to look for information about personalised medicine. Traditional marketing methods are used to drive awareness about an issue/topic. Some of the healthcare professionals are already using a few such as leaflets, brochures and posters in the hospital or examine room itself. Others that should be used are – mass media. This means publications in newspapers, magazines, broadcasts on television, in that way the information can reach general public (a lot of people).

## **4.2 Central Theme**

“EBF in collaboration with the healthcare professionals (doctor, hospitals and insurance companies) in making general public aware/ educated and engaged on personalised medicine in Europe. Combining efforts to implement personalised medicine in Europe.”

## **4.3 Messages for the target group**

*The following message can be used in the communication strategy directed to the healthcare professionals:*

- Pmed is the future of healthcare
- Take the advantages of the healthcare innovations
- You are crucial intermediate to make the public becoming familiar
- Social media is a great way for creating valuable interactions
- By engaging the public, the possible misconceptions and negative attitudes can be managed and prevented.
- Know today, envision tomorrow

## 5. Budgeting

The following initial budget estimate have been developed in order to start the preparatory work. Based on the evaluation and the conclusions of the projects, final budget agreements can be made.

<b>Initial budget estimate for finalizing the Project framework for Strategy 1</b> Strategy 1: Influencing the healthcare professionals <ul style="list-style-type: none"> <li>- Estimated time period: 4 months</li> <li>- Estimated participants: 100 healthcare professionals</li> </ul>		
ACTIVITIES	DAYS	COSTS
<i>I. Concept development*</i>		
Assign project group & formulate project goals	2	2,000 Eur
Scan and selection of participants for preparatory working meetings	4	4,000 Eur
Development of programme for preparatory working meetings	2	2,000 Eur
Scan and selection of relevant content, cases and best practices	3	3,000 Eur
Develop teaser video (kick-start of working meetings)		1,500 Eur
<i>*Hour fee (Sr. Communications advisor) – 125 Eur; Day fee – 1.000 Eur</i>		
<i>II. Organisation (based on 3 working meetings)**</i>		
Practical organisation, traffic and information participants	4	3,680 Eur
Location rent, catering, audio-visual equipment		9,000 Eur
Coordination, day management during working meetings	3	2,760 Eur
Finalising minutes & report of working meetings	2	1,840 Eur
<i>**Hour fee (Communications advisor) – 115 Eur; Day fee – 920 Eur</i>		
<i>III. Out of pocket</i>		
Unforeseen costs		1,500 Eur
<b>TOTAL BUDGET</b>		<b>31,280 Eur</b>

**Initial budget estimate for Pilot project based on Strategy 2**

Strategy 2: Motivating the healthcare professionals in using social media

- Estimated time period: 4 months
- Estimated participants: 30 healthcare professionals

ACTIVITIES	DAYS	COSTS
<i>I. Concept development*</i>		
Assign project group & formulate project goals	1	1,000 Eur
Scan and selection of enthusiastic participants for pilot project	3	3,000 Eur
Development of programme for preparatory working sessions	2	2,000 Eur
Scan and selection of relevant content, cases and best practices	3	3,000 Eur
Develop Communication Strategy	2	2,000 Eur
Develop Social media guidelines	1	1,000 Eur
<i>*Hour fee (Sr. Communications advisor) – 125 Eur; Day fee – 1.000 Eur</i>		
<i>II. Organisation workings sessions (based on 3 working sessions)**</i>		
Practical organisation, traffic and information participants	3	2,760 Eur
Location rent, catering, audio-visual equipment		3,000 Eur
Coordination, day management during working sessions	3	2,760 Eur
Social media expert – training hands-on & guidance		3,300 Eur
<i>**Hour fee (Communications advisor) – 115 Eur; Day fee – 920 Eur</i>		
<i>III. Online interactions in real-time (based on 2 months supervision)**</i>		
Social media interactions by the participating healthcare professionals		in kind
Monitoring, coordination & practical advise (max. 8 hours / per week)	8	7,360 Eur
<i>**Hour fee (Communications advisor) – 115 Eur; Day fee – 920 Eur</i>		
<i>IV. Out of pocket</i>		
Unforeseen		1,500 Eur
<b>TOTAL BUDGET</b>		<b>31,180 Eur</b>

## Chapter VII: Appendix



## 1. Theoretical Framework

Several areas of expertise and theory are relevant in the process of analyzing and studying the issue in the purpose of reaching a solution. For developing an effective and successful social media strategy aiming at gaining awareness about the concept “personalised medicine” among the general public and leading to engagement with general public various fields of theory will be viewed and considered. In total the sources that I will use for the research are specialized books, trustworthy and reliable online articles, specific journals, databases, specialized websites, specific reports (e.g. executed by European Commission/Healthcare organizations etc.). The aspects that will be covered are: social media and online network literature; marketing communication literature; specialized literature about healthcare and patient behaviour.

1. *Reports from the European Commission, Medical Journals from Healthcare & Medical Organisations about communication on social media about healthcare and personalised medicine in general and particularly by doctors, hospitals and insurance companies*

2. *“The New Rules of Marketing & PR: How to Use Social Media, Online Video, Mobile Applications, Blogs, News Releases, and Viral Marketing to Reach Buyers Directly”* by David Meerman Scotts.

This book is a guide which offers step-by-step plan of action for mastering the power of the Internet to communicate with buyers directly and raise online visibility.

3. *“Likable Social Media – How to Delight Your Customers, Create an Irresistible Brand, and Be Generally Amazing on Facebook ( and Other Social Networks)”* by Dave Kerpen

This book explains the secret to successful word-of-mouth marketing on social network. It aims to explain how to engage with your customer and the importance of word-of-mouth marketing on Internet. It gives advice how to listen to your customers to deliver value and excitement.

4. *“Social Media Marketing – The Next Generation of Business Engagement”* by Dave Evans

This book explains how to implement successfully tools which lead to high levels of customer engagement.

5. *“How to Make Money with Social Media”* by Jamie Turner

This book is a guide which explains practical strategies and proven techniques for getting the maximum value from social media marketing

## 2. Interviews – Transcripts

The first interview is with Dr. Meike Vernooij who is a Neuroradiologist, Head & Neck radiologist and assistant professor in Radiology and Epidemiology at Erasmus MC in Rotterdam, the Netherlands. She has a training in Radiology at Erasmus University Medical Hospital and a clinical fellowship in Neuroradiology. She has two awards – in 2008 Lourens Penning Prize by the Dutch Society of Radiology for her research on MRI in age-related brain diseases and a year later - the Research Prize of Erasmus University for her PhD work. Dr. (Erasmus, MC, 2013)

*1. Are you familiar with personalised medicine concept? And what is your opinion about it?*

AW: Yes, I understand the principles of personalised medicine. I believe it will become more important in the future, as both prevention as well as therapy may become more efficient when tailored to a specific patient (and more cost-effective)

*2. Do you think that you have the education and skills which are needed to implement personalised medicine in your area of operations?*

Partly. I am trained in public health and epidemiology and from that perspective have the skills for prevention in personalised medicine. Furthermore, I work as a clinical radiologist, and we use diagnostic tools (e.g. perfusion of brain tumours) that can be used for personalised therapy and prognosis.

*3. Do you have the required sources in terms of budget, time, team and equipment in order to implement personalised medicine?*

No. When evidence-based tools for personalised medicine will become available, this will be more time consuming (in the beginning) to implement. People not be trained, extra measurements will be needed for patients and this will be more costly. In this era of budget cuts that may be a problem.

*4. What do you think is the current level of adoption of personalised medicine in Europe from doctors, hospitals and general public?*

I think people think it is “interesting”, but the adoption is restricted to very few persons (in academic centres). Primarily limited to oncologic therapy right now I think. Not so much in prevention.

5. *Is the general public aware of personalised medicine concept?*

To a certain extent I think they are. From newspaper articles, again from the oncology field

6. *Do you think that the general public is interested in the personalised medicine topic; is the general public looking for information by asking you directly as an expert or by trying to find information on social media networks?*

Not that I am aware of.

7. *Do you communicate with the general public in terms of spreading healthcare and/or concrete information about personalised medicine? If "YES" – can you name any specific steps that you already undertook?*

I gave a conference lecture at ECR 2013 (March, Vienna). But that was for a scientific audience. I did not undertake actions for the general public.

8. *What activities you as a doctor/expert undertake in order to communicate about personalised medicine to the general public?*

None so far

9. *What do you think about healthcare information spread on social media networks nowadays?*

Often coloured by personal experiences, not very objective

10. *Do you use social media networks for communicating, involving, informing and interacting with the general public/potential patients about healthcare and personalised medicine?*

No

11. *Will you feel comfortable to use social networks to connect and interact with the general public/potential patients regarding health-related topics and specifically about personalised medicine?*

No

12. *Do you use any traditional marketing tools e.g. posters, publications on newspapers, magazines, advertisement, radio, television etc. to communicate about personalised medicine to the general public?*

Not yet.

The second interview is with an expert from Health Insurance Company Achmea Zorg, Mr. Hans Hopmans. He is a Procurement Development & Innovation in Achmea. His vision is "Creating shared value for community and company prosperity". He considered healthcare a social area where industry, health care providers, consumers, government and health insurers should excel in innovation and collaboration. (Achmea, 2013)

1. *Are you familiar with personalised medicine concept? And what is your opinion about it?*

Yes. I am informed about it. I consider this to be the future of healthcare.

2. *Do you think that you have the expertise which is needed to implement personalised medicine in your area of operations?*

Yes. In our company qualified and skilled experts are working and they can manage to implement personalised medicine in our services and practices.

3. *Do you have the required sources in terms of budget, time, team and equipment in order to implement personalised medicine?*

Not, yet.

4. *Do you have already insurance plans which specifically cover treatments based related to personalised medicine?*

Not, yet. We are trying to figure out how exactly to implement this service in the health insurance plans so that they will be in favour of the people and in favour of us.

5. *What do you think is the current level of adoption of personalised medicine in Europe from insurance companies and general public?*

In my opinion the current level of adoption is low. People have no ideas what is this about and we cannot even talk about adoption from their side.

For insurance companies is not a really new thing however it is early to talk about adoption.

6. *Is the general public aware of personalised medicine concept?*

No, not really. Some of them have read something by instance about it but they consider it as something so different, new and far away - something that is about scientists, healthcare professionals etc. but not about them.

7. *Do you think that the general public is interested in the personalised medicine topic; is the general public looking for information by asking you directly as an expert or by trying to find information on social media networks?*

No, they are not interested in that, because they don't know about the existence of it. None of them has ever asked me about it.

8. *Do you communicate with the general public in terms of spreading healthcare and/or concrete information about personalised medicine? If "YES" – can you name any specific steps that you already undertook?*

No.

9. *What activities you as an expert undertake in order to communicate about personalised medicine to the general public?*

I don't undertake any actions to communicate about personalised medicine to the general public.

10. *What do you think about healthcare information spread on social media networks nowadays?*

I personally find social media a nice place to find information and really convenient for healthcare topics. However there are privacy and ethical issues that should be taken into account.

11. *Do you use social media networks for communicating, involving, informing and interacting with the general public/potential patients about healthcare and personalised medicine?*

No.

12. *Will you feel comfortable to use social networks to connect and interact with the general public/potential patients regarding health-related topics and specifically about personalised medicine?*

Yes, I will. In that way I can be closer to the people which are my potential clients.

13. *Do you use any traditional marketing tools e.g. posters, publications on newspapers, magazines, advertisement, radio, television etc. to communicate about personalised medicine to the general public?*

No.

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