# Social Networking and Health

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## ABSTRACT

*The rise of social networking has revolutionised how people communicate on a daily basis. In a world where more people are connecting to the internet, social networking services create an immediate communication link between users. Social networking sites provide multiple services which include emailing, instant messaging, uploading files, gaming and finding friends. Just as social networking has become a more popular method of communication in recent years, the ways in which people look after our health has also changed. People do not just rely singly on medical expert's views anymore. They actively search for information on their own accord through the internet. Social Networking gives users both the option to gather, provide and comment on information. This research paper looks into if and how social networking can be successfully used within the health arena.*

*Keywords:    Communication, Health, Healthcare, Internet, Messaging, Social Networking*

## 1. INTRODUCTION

Social Networking is the use of dedicated websites and applications to communicate with other users, or to find people with similar interests to one's own (Hawkin, 2009). Social Networking is an increasing popular method of communication and has brought about a fundamental change in how people interact in today's society. With advances in internet services i.e. broadband, more and more people are able to access the internet than ever before. With portable devices such as smart phones becoming more technically advanced, users are no longer confined to using social networking sites on a computer. People can therefore access their social networking site anytime, anywhere and this has aided the growth of social networking in recent years. This research paper will look at three social networking websites and how they could be used within the health arena. The websites that will be reviewed are Facebook, Twitter and MedHelp. MedHelp unlike the other two Social Networking Services is a dedicated social network for health related issues.

Healthcare is maintaining and or improving the physical and mental condition of a patient through the provision of medical services. In the last decade with advances made in medicine and healthcare, people are expected to live longer and lead more active lives. People are becoming more knowledgeable in how to have a better quality of life, for example what foods they should consume and how much exercise

they need to undertake on a daily basis. How we get this information to help us live longer has changed. As a society in the twenty first century we are forever searching for new information. Information has become more readily available and through social networking websites user's views are always in close proximately to new information. When it comes to information regarding health, people are no different. We gather information on staying fit and healthy, on what to do when our health deteriorates and during recovery after illness. The sources of this information includes healthcare professionals, family members and in recent years the internet, including social networking sites. With the current recession in the UK and across the world, the health arena has been forced to cut down spending in order to save money. This research paper will look to see if social networking can help resolve the issues this sector faces and the effects if a solution cannot be found. We examine how social networking techniques can be implemented in the Health arena. We will look at the latest attempts to integrate social networking into healthcare. The positives aspects of these attempts and equally the negative impacts will be scrutinised. This in-depth analysis will look at social networking from users within the health arena both medical staff and patients. Ultimately it is these users who can determine whether or not the health arena can use social networking to their and the organisations advantage.

## 2. THE NEW ERA OF HEALTHCARE

Almost everyone at some point in their life will need some type of healthcare treatment. We all expect and deserve to receive the very best treatment for ourselves and our loved ones. Whether this health treatment is from a general practitioner, nurse, surgeon or any other medical expert we want to be cared or have someone else cared for in the best possible way. Unfortunately there are current threats to the healthcare system which could reduce the quality of healthcare people will receive in the future. Since the United Kingdom fell into recession officially in January 2009 the government has been cutting funds from education, transport and various other services (Telegraph, 2009). Unfortunately the healthcare sector has also had to find ways to reduce its spending in order to save money. To save money organisations such as the NHS have been forced to cut jobs from all areas of the health sector. According to an article by Rosa Prince a political correspondent for the telegraph (Moss, n.d.), more than 50,000 doctors, nurses, midwives and other NHS staff are due to lose their jobs due to the most comprehensive survey of health cuts since the government came to power. David Prentis general secretary of the unison trade union proclaims that with fewer nurses on wards due to these cuts, the return to long waiting lists and a rise in cancelled operations will result. Patient care will be an early casualty he warnss. Now more than ever it is important that methods can be put in place to save money for the health sector while still maintaining the highest quality of healthcare for patients. In the UK the population is predicted to increase to 70 million by the year 2027 according to an article from the British Broadcasting Corporation (BBC). The number aged over 85 is expected to more than double over the next 25 years from 1.4 million in 2010 to 1.9 million by 2020 increasing to 3.5 million by 2035. The number of people aged 90 and above is set to triple, while the number of people aged 95 and above is expected to quadruple both by the year 2035. At a time where the health sector is trying to cut down on spending, there should be an emphasis on expanding the health sector for the forecasted increase in the number of older aged people and the types of healthcare treatment that they will need. Many Healthcare services are therefore faced with the problem of reducing spending while increasing resources in the next 20 years to cope with more patients. Methods must therefore be found and implemented into the health arena and social networking techniques could be beneficial to the current and future issues that affect health

care. Social networking can combat the issues the health arena is expected to face by providing health information on social networking sites and using social networking techniques within the health arena.

With a huge rise in the popularity for social networking websites in recent years, providing health information and generating health groups will encourage users to live a healthier lifestyle. Theoretically this should reduce the number of patients admitted to hospital. This will result in less strain on the health service and its staff. For example encouraging people to eat healthier and exercise more should reduce numbers of patients admitted to hospital with heart disease, obesity and diabetes. Social networking is the new medium for conversation. Health organisations are beginning to realise how important and beneficial it is to be promoting their information on social networking sites. Due to the nature of social networking sites information is spread rapidly. As discussed earlier when someone sees someone joining a health related group they too will be interested and more likely to join especially if it's a relative or someone in their age group. Techniques used in social networking such as instant messaging (IM) could also improve how time is used in health arenas. A nurse could check up on all her hospital patients by sending out a general instant message such as, 'Does anyone need assistance?' If the answer returned is 'No' then that nurse has saved time in walking around checking each patient at their bed side and thus dedicating their time to other areas.

Healthcare is a multi-billion dollar industry and a vital service within society. There has been a shift in emphasis for patients, from attending hospitals and local doctor's surgeries to looking at self-monitoring and health awareness. Mario Carmen Domingo of Barcelona University, states that recent surveys show an increased reliance on physician and patient social networks which will change healthcare management (Griffin & de Leaster, 2009). With more and more organisations creating Facebook and Twitter webpages to attract users this verifies

that patients are taking more control of their health. In the past the patients visited the doctor when they felt sick or unwell or had a medical problem. The doctor then provided the patient with advise, diagnosis and medication and in some cases referred them to a consultant. When the patient returned home the only person they could talk to was a relation or a neighbour. In cases where a patient had a rare condition then they would have felt extremely isolated as no one they knew would be going through the same situation.

Figure 1 shows a model of how health information was provided and received before social networking services where used (Griffin & de Leaster, 2009). Now due to Social Networking services such as Facebook, Twitter and Medhelp the patient can get support from multiple areas. Figure 2 shows how social networking has changed how information is exchanged within the health arena. Social Networking has revolutionised and will continue to revolutionaries the healthcare sector. Control is now in the hands of the patient due to social networking. This is largely down to what is known as content control. Both the green and black arrows show how information is being carried from one entity to another as in Figure 2. Anyone can now publish, read and review medical information due to social networking and the internet. This has shifted the medical expert from the centre of the health arena to the patient.

Techniques can be used to revolutionaries how work is carried out even in health areas such as pharmacies. Social Networking services could be mapped into a different area of the health arena (Griffin & de Leaster, 2009). In this case a community pharmacist, local nurse and 50 patients are used. Each patient or e-patient is split logically into a care group in terms of their illness. A patient within the diabetics group would have a blood sugar monitoring device and at regular intervals the blood sugar level is taken. An Instant messaging bot would be implemented to monitor each patients reading and when a threshold is met an alert is sent to

*Figure 1. How health information was transferred before social networks*
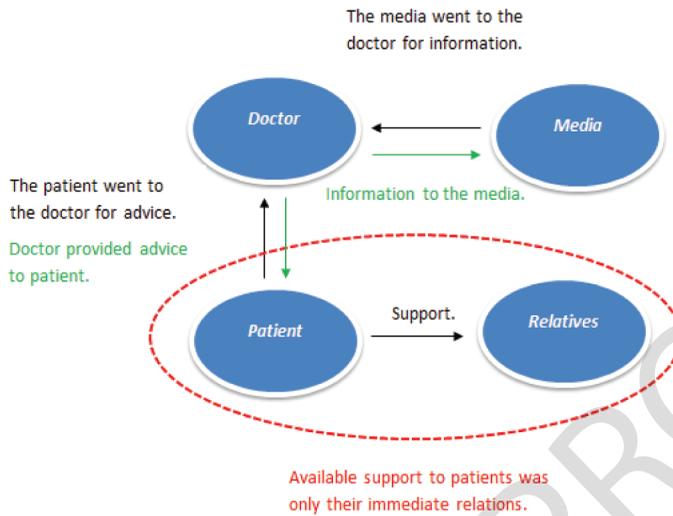


the local nurses phone alerting her to a particular patients change in sugar levels. The Nurse can then get in contact with the patient to make sure they are ok and get in contact with the pharmacist to discuss prescription options. If a new prescription is deemed necessary then an instant message will be sent from the bot to the patient explaining that a new prescription is available for collection. This example shows how social networking techniques could be incorporated in a variety of situations and areas within the health arena.

*Figure 2. How health information is transferred using social networks*
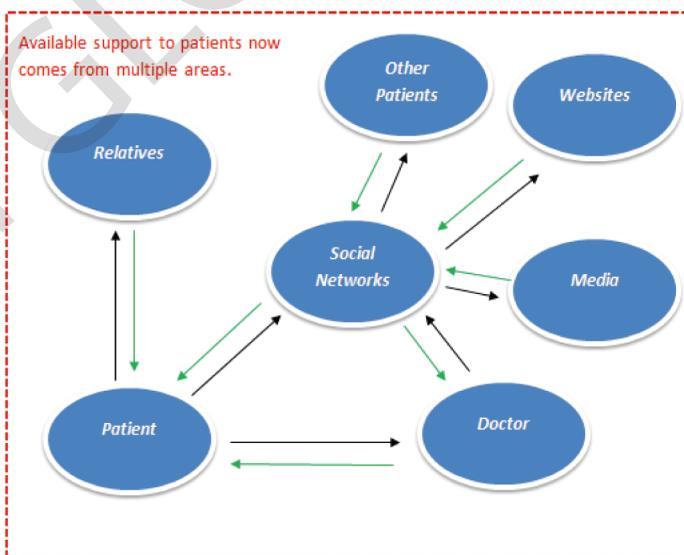
## 3. SOCIAL NETWORKS AND HEALTH EXAMPLES

### 3.1. Facebook

Facebook (http://wwww.facebook.com) in terms of total users is the most popular social networking site on the internet. This social networking site then known as "The Facebook", was launched in February 2004 by Mark Zuckerberg while studying psychology at Harvard University. The growth figures in terms of users have increased rapidly over the last seven years. As of September 2011 (The Guardian, 2007), Spotify's CEO Daniel Ek stated that that total number of Facebook users had passed 800 million. The rate of growth is demonstrated in Figure 3. Bret Taylor Facebook's chief technology officer later confirmed this statistic and continued stating that 350 million people use Facebook on mobile devices each month. Before using Facebook, users must first register and then create an account. The account will include a profile page that will allow all the users information to be included. Facebook users have the option to setting their page to private or public. Private means that only friends can access their information while public means anyone can see the information on their profile. The user can then proceed to finding and adding friends and joining particular groups if desired. For example Figure 3 shows six groups associated to the word 'diabetic'.

By clicking on any of the selected results shown will take the user to that groups Facebook page. In this example where DiabeticLifestyle was chosen, once directed to that page the user can retrieve information on diet, exercise and they can also find other users who are affected by diabetes or in some cases medical experts that could provide professional information if needed. The user can navigate to the 'wall' section where all the latest posts will be published. The user can also look at 'friend activity' and photos to see what photos have been uploaded to this Facebook page. The DiabeticLifestyle group page can also be used by family members of someone who has diabetes or carers for information that might be of benefit to the person with the illness. Facebook is an ideal social networking site to promote a healthier lifestyle. With over 800 million users (Facebook statistics, n.d.) it is very easy to find others with a similar illness through group pages such as the one shown above. Facebook is a great website for influencing other users. For instance if a family member or friend joined a group for healthier eating then there is a high probability that another person will join the same group due to the relationship they have with this person. This cycle continues throughout the social networking website. The support on each group page also creates a sense of belonging, knowing that someone else is going through the same difficulties. Positive reading and uplifting stories can be inspiring, creating a greater determination to achieve a certain goal. Information from group pages on Facebook or members of a certain group can be beneficial. However it is down to the user's discretion whether or not

*Figure 3. Screenshot of results for the word 'diabetic' on Facebook*
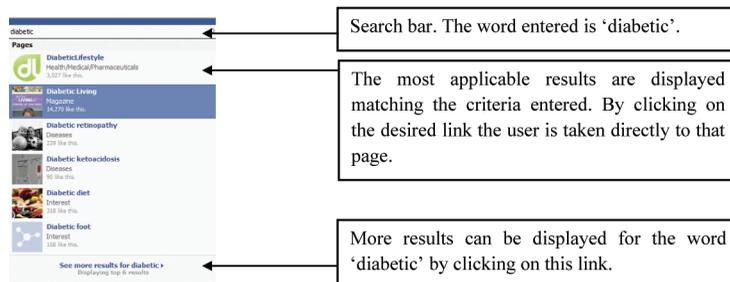
he or she acts on the information provided as anyone could setup a group page on Facebook or claim to have 'expertise' in a certain area of health. Advice for one person may often not be applicable for another especially when it comes to health related issues. Even though groups on Facebook do contribute numerous positives to the user, the negative aspect is that advice provided may not always be beneficial and in some cases potentially harmful to the user.

The Instant messaging service on Facebook which is also incorporated on other social networking sites is a very useful medium in providing health information between users. Other common instant messaging services such as Pidgin and Meebo have a large user base and can be used to communicate with multiple people at one time. As this method of online communication is almost in real-time it provides an effective way of sending and receiving information. On some services advancements made allow for video calling, VoIP (Voice over IP) and web conferencing to be possible. It is therefore possible to have a face to face communication with anyone anywhere if both have the necessary hardware and software such as a webcam, microphone and internet service. Therefore communication can be between two people of the same illness from anywhere in the world. This method of communication is particularly useful in situations where mobility, geographical or even time constraints are in place between users at either end. This social networking technique could be extremely useful within the health arena. Instant messaging could potentially minimise the workload on medical staff and implement a more efficient way for work to be carried out in any health arena. Figure 4 shows an example instant messaging service within the health arena. Although simplistic this particular scenario shows the benefits of having Instant Messaging in a hospital ward. This type of communication would be very useful for the medical staff such as a nurse in this case. Each patient has been assigned to a group depending on their illness. If a patient feels unwell or wants to talk to the nurse they can privately instant message (IM) the nurse. The nurse can then immediately go to that patient to see what the issue is. This type of communication could save the medical expert valuable time as they would not have to check up on each patient

*Figure 4. Patient to nurse instant messaging model*
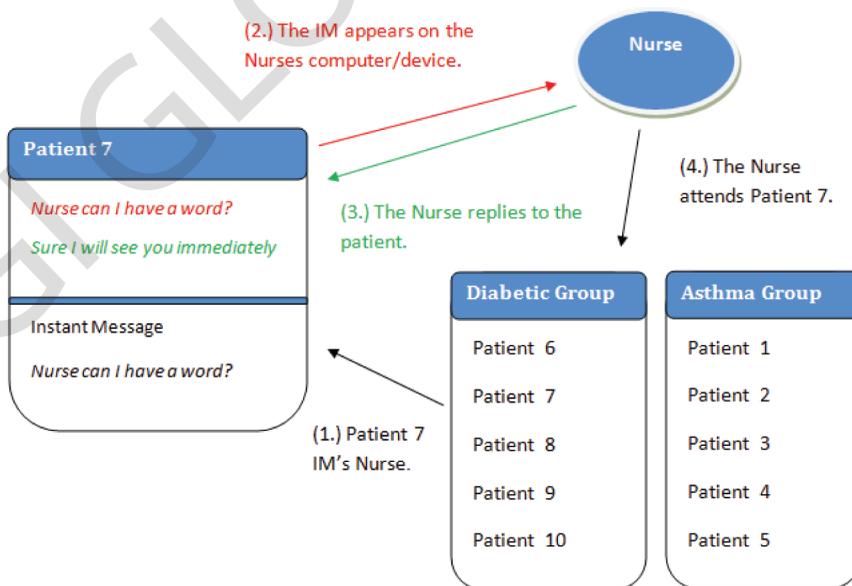
individually at certain times of the day. The patient would also be able to get information immediately from the nurse using this method of social networking.

One potential drawback of this however would be that not everyone is computer literate or able to use social networking as a method of communication. If this was the case then standard hospital check-ups would have to be carried out. This type of communication could also only be used in situations where a patient has no serious health risk and ideally used when a patient is almost fully recovered. Therefore the cost of implementing this type of social networking medium for only a certain amount of potential patients would have to be carefully considered before a decision is made.

Government organisations such as Health-Care.gov have both a Facebook and Twitter webpage. The motto "Take health care into your own hands" is clearly directed to users who want to be actively involved in their health care. It is clear to see that health organisations such as Heath Care.gov are beginning to realise the full potential of how social networking can benefit both the community and the organisation itself. By advertising on major social networking services such as Facebook which has over 800 million users, the message of healthcare can be quickly spread to millions of users all over the world.

## 3.2. Twitter

Twitter (http://www.twitter.com) was created in March 2006 and launched in July of the same year. Twitter was created by Jack Dorsey and can be described as a social networking micro blogging service. A report from the British Broadcasting Corporation stated that, (BBC, 2011) Twitter had over 200 million users as of March 2011. Twitter allows users to communicate with each through messages known as 'tweets' that are limited to 140 characters in length which appear on the users home page. What is unique about Twitter is that users can choose to 'follow' certain groups or people, meaning that no latest update is missed as all 'tweets' come directly to the user. Many

organisations are learning that Twitter is an effective way of sharing information. Only recently though has organisations such as the National Health Service (NHS) began using Twitter to its full potential. Nick Gomm head of communication and engagement at NHS Manchester states, (Guardian, 2011) *we use it as an educational tool to support people living with long term conditions by sign-posting them to blogs, podcasts and guides to patients living with the same condition.* The benefits of using Twitter however are twofold. The patient is directed to a particular channel where they can receive support while the health organisation can respond to any criticism of their service which they have received.

Feedback from a user improves the on-going development of the health service which in turn benefits future patients. They are pitfalls for the Health Service if caution is not taken when communicating medical advice. Information must be accurate, reliable and current in order to support the patient or user in the best possible way. Preserving user confidentiality especially in sensitive cases is also of the upmost importance when using Social Networking websites such as Twitter, as a breach of confidentiality could result in legal action being taken against the organisation. Mario Carmen Domingo of Barcelona University, states that (Domingo, 2010) *data accuracy and privacy are the main issues with this type of healthcare model.* Patients can also use twitter to review the quality of their treatment in real time. Patients can look for information on their medical expert and find out what other people have experienced while under the care of that particular person.

## 3.3. Medhelp

Medhelp (Medhelp.com) is a social networking service setup specifically for information and communication on health related issues. Facebook and Twitter unlike MedHelp are used primarily for socialising and keeping up-to-date with the latest information. MedHelp is an American private corporation founded in February 1994 and with over 12 million visitors monthly to the website it is the world's largest

health community. Christopher C. Yang and Xuning Tang in their article *Who Made the Most Influence in Medhelp* explain that (Yang & Tang, 2012), MedHelp has long term partnerships with many medical institutions, to which their health professionals logon to offer support to participating patients. Within the MedHelp homepage the user can choose from three main options. These are, Ask One of Our Experts, Get Support Today and Manage Your Health.

The Ask-an-Expert section allows the user to have their question answered by over 200 doctors and experts from top medical institutions. Information and knowledge is also shared to users in this section via blogs and live health chats. The Get-Support-Today section allows the user to read real stories on people with similar illnesses and to share experiences. The Manage-Your-Health section allows the patient or user to download apps to their phone which help in healthy eating, exercise, mental health and even maternal and child support. These are just a few of the apps available from the MedHelp website and by allowing the user to download apps the user is able to benefit from these services anytime, anywhere.

The positive aspect of MedHelp to the patient is that it gives a separate option to talk to medical experts. This means that the information in theory should be more trustworthy than that given by a non-medic. The MedHelp homepage has links to Facebook and Twitter which will automatically update to the homepage on either website. This term used by the MedHelp website is called a pulse. This is particularly useful as most users of Facebook and Twitter login to their service at least once a day thus they will receive the latest pulse from the MedHelp website. MedHelp can also be used by medical experts for personal interest. Discussions between doctors can keep them up-to-date with the latest findings and what to look out for in certain health cases. It also useful to keep an eye on the latest trends and outbreaks in a geographical location, for example if a large number of users are complaining of influenza type symptoms then by monitoring the county or state these medical experts can determine

what locations are affected. This means that a greater number of vaccines could be provided to a particular location thus in this case social networking sites could be very useful to the health arena.

## 3. CONCLUSION

Social Networking allows patients to become more connected with one another. It allows patients with rare conditions to talk to people with that same condition. Without social networking websites this would be impossible if geographical constraints are placed between patients. Therefore social networking creates a sense of community between patients of a similar illness and allows them to share personal stories, health information and advice. Similarly for medical expert's social networking websites can be used to keep up to date with the latest finding in the medical world. The website MedHelp is made up of a community of over 200 medical experts where the latest developments in the medical world are shared between one and other. Twitter is popular with both patients and health organisations. Patient can talk about the quality of care they are receiving while the health organisation can use the reviews to improve the quality of health service offered. This in turn benefits future patients. Social Networking has placed the patient rightly at the centre of health care. Doctors are no longer at the centre of healthcare as they are no longer the only source of medical information. Some medical experts are concerned that information is inaccurate or misleading due to anyone being able to create content on these websites. The content is easily transferred through social networking sites and can therefore be viewed by millions of people within a small period of time which is of concern if the information is inaccurate or misleading. It is therefore important to note that all information on social networking sites should be carefully considered before acting on it. Ensuring information is accurate, reliable and current is of upmost importance. Maintaining user confidentiality is also important as

healthcare has always been a private issue and must remain private.

It is clear to see that people now know more about their own health and how to manage it, but making self-diagnosis is a negative aspect of social networking in healthcare. Social Networking should only be used for support, advice and relationship building along with similar activities. Social Networking can be used after a diagnosis has been made by a medical expert as they will know what they must adhere to. Finding people with the same illness is beneficial as support is provided and received in most cases. This gives the patient a sense of belonging knowing that they are not alone. Social networking biggest positive comes when the patient has no family or friends. In this case it is a lifeline to the patient knowing that they can talk to someone who understands and cares. They are however negative aspects to social networking. No medical expert would make a diagnosis without thoroughly examining a patient therefore it would be impossible and foolish to diagnosis yourself over a social networking website. A diagnosis must always be face to face by a medical expert and this should never change. Giving someone false hope over social networking is particularly cruel even if unintentional. Equally underestimating an illness that requires medical attention is cause for concern in social networking. It is recommended that social networks can be used to research symptoms but a medical expert should always be contacted in all circumstances no matter how sever or mild symptoms are.

Mediums that are used within social networking however would be very useful in multiple areas of the health arena. Social networking techniques can be incorporated in multiple areas of healthcare. This research paper explored how techniques such as Instant Messaging could be used by nurses to contact patients in hospital wards. This would save time and money as it is a quicker method of communication. Fewer nurses would be needed as one nurse could monitor more patients. Methods that could save the health arena money are now more than ever particularly important with the current recession. Job cuts in the health sector mean that there is a higher patient to medical expert ratio. This ratio is only set to increase with people expected to live longer therefore extra strain will be put on the health arena and its staff. The positives for incorporating social networking to the healthcare system are obvious but it is how these social networking techniques can be developed and perfected will determine whether or not it could be successful in the health arena. Some patients may be too ill to use social networking, some may be unable to use the software as they are not computer literate while others may simply refuse and want traditional methods of healthcare. It is not fair to bring this relatively new method of communication into places such as hospitals where a high percentage of patients are not accustomed to social networking. For the particular health organisation the cost of implementing these social networking techniques have to be factored with the amount of patients that could and will use them. It may not be feasible to implement social networking techniques into healthcare currently. In conclusion social networking can be used to find people who suffer from a particular illness. It provides support, advice and a sense of belonging, the patient does not fell like he or she is alone which is important. Medical information such as a diagnosis should only be given face to face after examination by a medical expert. Never should a diagnosis be carried out over a social networking website. Medical advice should be disregarded unless confirmed by a local doctor in person. In the future it is increasingly likely that mediums in social networking will be used in the health arena. This will not be at the request of the patient but the medical institution itself. Methods will need to be found to cope with a higher number of patients forecasted in the next twenty years such as instant messaging. Unfortunately this will take the personal touch out of health care but this may be necessary in order to provide adequate healthcare in the twenty first century and beyond.

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