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A QUARTERLY PUBLICATION OF THE POTTER-RANDALL COUNTY MEDICAL SOCIETY

SUMMER 2015 | VOL 25 | NO. 3

Cyber Medicine/Social Media

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PANHANDLE HEALTH is published quarterly by the Potter-Randall County Medical Society, (806) 355-6854. Subscription price is \$12.00 per year. POSTMAN: Send address changes to PANHANDLE HEALTH, 1721 Hagy, Amarillo, Texas 79106. ISSN 2162-7142

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President's Message: *Towards a Better Healthcare: The Growing Pains* by Tarek Naguib, M.D., M.B.A., F.A.C.P.

s I think about tomorrow, there is nothing more important in healthcare than improving the manner of delivery in order to have farther reaching effects for benefiting our citizens. When the federal government devised the concept of Accountable Care Organization (ACO) it aimed at a novel delivery approach that provides better care as it contains cost. Accordingly, a new concept (called value-based purchasing) emerged in order to reflect medicine in a businesslike fashion that publishes both cost and outcome (for the consumer to be able to purchase intelligently). Today, we have circa 46 ACOs in Texas, the third highest state in the Union, accounting for a sizeable portion of the nation's ACOs where over 23 million Americans (9% of the population) receive their healthcare. Where the rubber meets the road; however, an ACO means a group of doctors who align themselves together to represent most specialties and have computerbased systems to both connect them together and to report to the government the outcome and cost.

Texas physicians, like other US physicians, became increasingly burdened with complex regulatory reporting and administrative load that came along with ACOs. Practice viabilities will soon depend on how well quality and cost of care are managed and reported, and whether a physician has the needed infrastructure in place to prove it. Certainly the burden is heavier on small and solo practices. A casual observer would point out that quality improvement in the face of cost reduction cannot continue forever. Attaching financial incentives and penalties to the outcome measures, therefore, may soon yield frustration, for obvious reasons. To this end, the Texas Medical Association (TMA) has formed a program, called Practice Edge, to help physicians form their own ACO or create a clinically-integrated network. Practice Edge supports ACO function with technology platform, network, and care and data management. This project appears to be very timely for our Texas physicians.

In the big picture though, we see the progressive conglomeration of individual physician practices into large entities similar to other occupations in retail pharmacies, dialysis clinics, groceries, restaurants, and department stores. In all these examples, larger, regional or national entities take over the operation providing direct management where everyone else becomes an employee or at best a franchise holder. This business model abolishes the spirit of individualism and entrepreneurship. The rapidly increasing number of physicians employed by larger corporations reflects this picture. The cynic would say that entrepreneurship is really all we need to advance our professions, whether medical or not!

In parallel, another equally interesting healthcare delivery model has been evolving – Telemedicine. It seems to revolutionize the way we interact with our patients. Burgeoning telemedicine companies are successfully recruiting more physicians to join the new wave of care delivery. Make no mistake about it; telemedicine is here to stay as it frees both patients and physicians from the restraints of the traditional medical practice.

As expected, laws and regulations are progressively evolving for telemedicine. The Senate just approved House Bill 3519 to allow Medicaid to pay for home telemonitoring for some frequent hospital visitors. Also, malpractice insurers provide coverage for telemedicine as long as the physician is licensed in the state of his practice. Recently, Texas Medical Board (TMB) has approved the practice of telemedicine with the stipulation that the first visit is done in the presence of a trained health provider (e.g. a licensed vocational nurse) to provide objective evaluation to the remote physician via telemedicine; or else, the first visit should be accomplished in the physician's office. TMA blessed the rule of TMB as safe since the subsequent visits will actually be built on the first one.

Teladoc, a large telemedicine corporation, is suing TMB arguing that the rule could bring the company to the brink of bankruptcy while protecting the traditional office businesses of the physician members. The Texas Association of Health Underwriters also argues that the TMB rule opposes insurance laws that prohibit insurance carriers from declining reimbursement for telemedicine encounters. Others contend that insurance laws regulate reimbursement and not the practice of medicine, which is actually an inherent function of the Board. To make it more interesting, US Supreme Court recently ruled, in a different case, that state licensing boards made up of active members of the profession, such as practicing doctors, are not immune from antitrust laws unless they are actively supervised by the state. As the court rules on these claims, there seems to be a growing movement in the House to explore new bills to provide a legislative fix for this complex situation.

In the end, we can only be hopeful that these growing pains may lead to a better tomorrow. The spectrum of healthcare delivery continues to include traditional practice, employed-physician model, ACOs, and telemedicine. The evolution of health care delivery will continue to develop under the impact of complex and seemingly conflicting medical, legal, administrative, and technology factors. Although we do not know exactly what the shape of medicine will be in the future, we certainly know that it will be different!



Alliance News

by KiKi Brabham, President

The Potter-Randall County Medical Alliance has been in planning mode this spring! We are working toward filling officer positions and planning activities for the rest of the year.

We recently hosted our Women's Spring Social in late April at the home of Lacey Schniederjan (and Dr. Bleu). All that attended had a wonderful time! We met many new faces! Thank you to the Schniederjans for opening their lovely home for the evening.

We are looking to do our Hard Hats

for Little Heads program again, but just need to find a recipient school or group of children. Last year's event at Boys Ranch Elementary was fantastic! We are also looking to plan a family event within the year.

We were happy to present our two scholarships to two graduating medical students from Tech, Morgan Black and Kristin Goen at the Match Day Event in March. We were also proud to honor our local physicians on Doctors Day with a large ad in the Sunday edition of the Amarillo Globe News and a donation to the Ronald McDonald House. Thank you for all your do!

We thank you all for your continued support of our Alliance here in Potter and Randall Counties. We look forward to continuing our traditions of the past and adding new flares too. Please contact us if you have ideas for the Alliance that you would like to share or want to join us.

Have a great summer! We will keep you posted of upcoming events!





Executive Director's Message

by Cindy Barnard, Executive Director

he 2015 Summer issue of *Panhandle Health* is entitled "Cyber Medicine/ Social Media". The January 2012 issue of Texas Medicine points out that "social media represents opportunities for physicians to become individual publishers, creating and conveying information in real time." More and more, the medical community is using tools like Facebook and Twitter. TMA has even created a social medium forum for physicians and patients to join "candid, open discussions about today's pressing health care issues"-a blog called www.meandmydoctor.com. Social media has become a "platform to the world", fostering patient connections in a speedy, efficient manner, "live, interactive, and mobile".

The new 2015-2016 Panhandle Area Physicians Roster will be available in July. Call or come by the Medical Society Office to purchase your new directory. Every active member physician will receive a complimentary Roster in the mail.

The Retired Physicians Group met for lunch in April at the Medical Society Office. If you are interested in joining this group, call the Society's office at 355-6854. Below is a picture from the luncheon.

Our cover for this issue is entitled "Oak Alley" by Aimee L. Mouw. Aimee's life journey has taken her across the country and influenced her artwork both culturally and regionally. She received a B.A. in Graphic Design from Grace College in Winona Lake, IN. Currently, Aimee works out of her home gallery and studio in Timbercreek Canyon. Now she sells and exhibits her artwork at the Panhandle Art Center.



Left to Right: Seated: Nathan Goldstein, M.D.; William Price, M.D.; Holly Reed, M.D. Left to Right: Standing: John Alpar, M.D.; Dennis Canon, M.D.; Frank Howell, M.D.; Jack Fong, M.D.; Howard Berg, M.D.; Carroll Moore, M.D.; Wayne Smith, M.D.; Mitch Jones, M.D.





Editor's Message: Social Media: the Good, the Bad and the Ugly

by Rouzbeh K. Kordestani, MD, MPH

Facebook. YouTube. Twitter. LinkedIn. Pinterest......

The list of social media companies is too long to recount here. However, like it or not, these entities are here to stay. They have an insurmountable following and have become ingrained into the fabric of everyday human life.

With the advent of social media, the human condition is now no longer a lonely one. Loneliness is now substituted with a shared experience of "me and my closest 394 friends." In this way, the human experience is now shared, not only amongst family, but also amongst all others.

This communal relationship has done wonders to allow people to feel, learn and progress. Take YouTube for example. An experience of a worldclass skier can be digitized and experienced by a lonely person living in the desert in Africa, a person who may never in their lifetime even see snow. Now imagine the medical possibilities of such a tool. A chest wall reconstruction that has never been attempted in a small town can be easily taught and followed, stage-by-stage, on a YouTube video from half way across the world. If nothing else, this attribute of social media has to be commended and ascribed.

However, in the field of medicine, social media has detractors. Even though the feelings of loss and sadness can be lessened in sharing with others, the amount of information shared across social media windows can be used by the unsavory to do harm. The personal and confidential medical information available on individuals is essential to who they are and to their finances. An individual who does not have the person's best wishes at heart can manipulate this information and steal from this sickly individual. Imagine the lonely grandmother who gets ill and is admitted to hospital. Her information is available and is suddenly compromised. The information is then used to steal this grandmother's identity and empty out here accounts. When "grandma" finally leaves the hospital in good health, she finds out that her resources have been drained and she has to face the nightmare of financial hardship.

It is for this reason, amongst others, that this issue of Panhandle Health was written. We chose to champion the good and the new aspects of social media. We agree that social media is here to stay. That fact is only too true in the careers of new medical graduates coming out of training. As more senior physicians, we, who were not raised within these confines, agree that there are tremendous benefits to social media and we truly believe that social media if used wisely can benefit a much larger population in this world. However, we also believe that social media and the information discussed needs to be guarded. As one security expert notes in her article, health information is a person's true calling card. Their health identity is even more a part of them than their credit cards and their bankcards. This "health identity" needs to be guarded and protected and we hope to show you through these articles what needs to be done.

In closing, YES-social media is here to stay. It is a powerful tool and we hope physicians use it well to help young people and other physicians to extend their abilities in modern health care. We believe it has the potential to make medicine and its delivery an entirely new adventure.

We just also want to remind you that not all 394 of your "best friends" need to know everything about grandma.

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HIPAA and the Internet

By Michelle Mayes, CHC CHPC

Disclaimer: The information provided in this article is a compilation of my personal opinions and research and does not represent the official opinion of any individual, department, or division of BSA Health System or Ardent Health Services.

n today's world where the internet never sleeps and society is instantly connected online at the tap of a finger on a mobile phone, it is not surprising that Facebook has 2,460,000 shares per minute or that there are 204,000,000 emails sent every minute. (1) The ability to utilize the internet to one's advantage is powerful but it does not come without potential hazards. Health care providers are not immune from these risks and should proceed cautiously when adopting the internet innovations of today's world.

Social Media

In this era of social media, Americans spend an average of 30% of their time on mobile devices using social media. (2) Organizations wanting to capitalize on the current social media frenzy have established social media accounts to promote their wares. Maintaining a high social media profile is becoming increasingly important for all organizations including health care providers. Social media allows providers to instantaneously promote their services or new treatments to a large multigenerational audience in real time. Patients of all ages use social media to discuss their treatment and the associated side effects, their emotional and physical challenges, and the recommendations from their providers. While social media has benefits, it does not come without risks from a variety of perspectives. Some risks include the ambiguity of the written language, muddling boundaries of the patient-physician relationship, the blurring of the professional and social persona and of course potential HIPAA violations. (3) The price of the instantaneous message is that the content of any one post runs the risk of reaching thousands of unintended parties and, thereby, could be misinterpreted or taken out of context.

Overall, Americans spend 18-30% of their time online on social media accounts, which presents a provider with a unique opportunity to communicate with a wide audience instantly. (4) Providers using social media sites might want to "Pause before Posting" to consider the content of the message and the audience, as recommended by the American College of Physicians and the Federation of State Medical Boards. (5) Social media can provide many benefits for providers but careful attention should be given to the intended use of the social media accounts. If the intention is to use the social media site to communicate with patients, then thoughtfulness should be given regarding the type of communications. Is the plan to post educational pieces, discuss the latest in medical advancements, or promote services offered? Will there be ongoing dialogs with followers? Are followers allowed to post comments freely on the site or will the site require that all submissions go through an approval process prior to being displayed publically? Will the provider engage in private message conversations with followers? What about the patient that wants to "friend" a provider on a professional or personal social media site? Even though the patient may want to use a megaphone to tell everyone who their provider is, it could still pose a risk if the provider identifies the patient as receiving services. One of the unknowns to a provider is the connection their friends or followers have to patients in their care. A provider acknowledging a post by stating, "it was good to see you" could be enough for a follower to connect the dots and even learn a general diagnosis depending on the provider's field of practice. Any conversation with patients on a social media site, whether public or private, should be scrutinized before posting with patient privacy and HIPAA in mind.

Increasing regulatory enforcement

requires extra attention when communicating or disclosing patient information through social media sites. Health care providers discussing information that could allow a follower to identify a patient could pose a HIPAA risk. In 2011, a Rhode Island physician posted about her clinical experience with a unique injury on Facebook without using the patient's name. The Rhode Island Medical Licensing Board found that the description of the patient's injuries were enough that a third party was able to identify the person. The physician was subject to a fine and disciplinary action by the medical licensing board as well as a loss of hospital privileges. (6) The information posted doesn't necessarily need to be considered significant or personally identifying information. Just discussing a unique injury, unusual disease, or procedure performed in combination with the social media profile of the provider and date of the posting could be enough to identify a patient.

Another consideration when using third party social media sites is that it is highly probable that the sites will maintain a copy of all communications. If communications on the site (which would include any private messages between the provider and patients) will contain content that could be considered protected health information, it would be prudent to obtain a business associate agreement with the site according to regulations. (7) Realistically, getting a business associate agreement with Facebook may not seem probable or even practical. Best practice would suggest limiting communications with patients to mediums that meet the requirements set out by HIPAA.

While physicians should be sensitive to their activity on social media, they should not forget about setting guidelines for their employees as well. If staff is identifiable as an employee of a provider, then their behavior on social media can add or detract from the provider's reputation and/or put the provider at risk. Employees need to understand the risks of social media when they use it for patient interactions as well as professional interactions. The recent attack on Anthem that resulted in the data breach of 80 million customers only reinforces the fact that employees maintaining professional profiles on social media can still pose a risk. Analysts indicate that the hackers located Anthem employees through social media accounts such a LinkedIn and deployed a series of techniques to compromise the credentials of the employees, resulting in the severe data breach. (8)

Providers should develop policies regarding social media to minimize the likelihood of privacy violations and then close the loop by providing training to employees. While the commentary from Health and Human Services indicates that a provider may avoid or receive reduced penalties based on a misguided employee's actions that violate HIPAA, the provider must have implemented policies and provided adequate training. Furthermore, having the appropriate policies and training may avoid or reduce penalties for HIPAA. HIPAA imposes federal penalties which are supplemented in many states, such as Texas, by additional penalties for violations of patient privacy. (9) Case in point, an Indiana jury awarded a \$1.44 million verdict against Walgreens when an employed pharmacist violated patient privacy despite Walgreen's policies and training. (10)

The minefield of social media can be complicated for providers, and mismanaged social media can set off landmines such as HIPAA violations, sanctions by regulatory bodies and reputational harm. Used judiciously, social media can be leveraged as a platform by which providers can offer patients quick and easy access to information and services in real time. The key is to identify the social media strategy that fits the needs of the practice, to identify the risks associated with strategy and to implement the appropriate policies and training to mitigate the risks.

Emails

Health care providers trying to maintain effective relationships and communication methods with patients while incorporating some of the conveniences of today's technology should not overlook the benefit of email. Communicating with patients through email is permitted under HIPAA regulations, and some patients may even request that you communicate through email. (11) Email can be used for appointment reminders, providing educational information, and sending out normal test results, to name a few. Some key considerations for providers communicating by email are the following: act sensibly and in accordance with the patient preferences and employ the appropriate and reasonable administrative, physical and technical safeguards as determined by the HIPAA regulations. (12) Reasonable safeguards will vary depending on how and what the provider will be communicating through email.

Administrative safeguards center on policies, procedures and training to prevent information from inappropriate disclosure. For example, a provider may want to have a policy that requires a verification email to be sent to the patient for confirmation before any future communications are sent. An additional policy the provider may implement is to utilize a patient address book to minimize

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Spectrum The Journal seeks a wide range of review articles and original observations addressing clinical and non-clinical, social and public health, aspects as they relate to the advancement of the state of health in the Texas Panhandle. Pertinent letters to the editor, news submissions, and obituaries listings are accepted pending editorial review. The Editorial Board accepts or rejects submissions based on merit, appropriateness, and space availability.

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the risk of typos in the email address. If a provider utilizes a third party to send appointment reminders, they should ensure the appropriate business associate agreement is in place. (7) Considerations surrounding the physical safeguards for email may include the security of the email server and whether or not copies of the emails will be left on devices such as laptops, smartphones, or other portable devices that can easily be lost or stolen. Technical safeguard considerations should include the use of encrypted emails or a secure messaging system. These items allow the information to be transmitted securely and require the patient to logon to a secured website to view the information. Providers should be aware that even health educational emails sent to an entire patient list could still pose a low risk if they include demographic information such as patient names and email addresses visible to all recipients. Portable devices containing copies of patient emails should be technically secured through encryption and/ or password protection to prevent unauthorized access.

An analysis should be conducted for each type of email the provider intends to send to patients. Controls and safeguards should be implemented based on the risk of each type of email. A provider may determine that an appointment reminder contains less sensitive data, and therefore poses a lower risk, allowing it to be sent to the patient without encryption. Patient-specific emails that include a patient's condition or treatment pose a greater risk and should be sent with encryption. Providers should document decisions regarding reasonable safeguards in a manner that outlines considerations of the vulnerability and potential risk of each email. Documentation of patient's communication preference and the acknowledgment of the possible risks may also prove helpful should an email be intercepted. Despite the HIPAA challenges with email, communicating with patients via email can still be efficient and beneficial.

Final Thoughts

With the advent of social media sites still relatively new and gaining popularity, society is spending increasingly more time online, and as a result, communicating electronically. Just as with any new technology, there are benefits that integration has to offer. While embracing these benefits, one must be mindful of the unintended consequences that might occur. Utilizing reasonable safeguards and old-fashioned common sense should allow providers to take advantage of the benefits that E-communication, mobile technology and social media have to offer. The result should be an enhanced environment of communication and satisfaction for both patients and physicians.

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The Do's and Don'ts of Digital Marketing

by Wendi Swope, Double U Marketing

or decades, physicians have sought revenue-generating patients by casting a wide marketing net through a combination of various media such as television, radio, newspaper, magazines and other traditional marketing avenues. While effective, this shotgun style approach has become significantly more powerful with the integration of digital marketing.

Digital marketing engages with people through their electronic devices, such as computers, tablets and smart phones, and applies to platforms like websites, e-mail, apps and social media networks. By utilizing a combination of digital and traditional marketing channels, physicians can effectively identify and engage new patients without breaking the bank.

It's estimated that 87% of adults in the United States use the Internet and 72% say they look online for health information. To throw even more numbers into the mix...77% of those online health seekers say they began their last session at a search engine such as Google, Bing or Yahoo. Among the most commonly researched topics are specific diseases or conditions and information on physicians and their practices.

We can take away two things from this research. First, Search Engine Optimization (SEO) is a major component in running a successful digital campaign. And secondly, a well designed, informative website that is easy to navigate is key.

Let's first discuss websites. A successful site starts with finding the right designer / provider with which to partner. You'll want to thoroughly research each company and get references. There are a lot of back alley web guys out there, so make sure you are 100% confident before signing on the dotted line. Something else to keep in mind: it's not good to cut corners on your initial design. Because your site is the first impression for many new patients, invest a little more to make sure it sends the right message. When built correctly, you can easily get a return on investment that surpasses the amount you initially invested into the site.

It's also a good idea to include features that make the process easier for patients, such as online scheduling, downloadable patient forms and staff / physician bios. Many people also include a comment area on their site. That's because one in five people say they look at online reviews and rankings of health care service providers while researching physicians. Of course, this can be a double-edged sword. It's extremely important to make sure your patients have a good experience and leave good feedback because bad online reviews can haunt a business for years.

Many health care facilities, such as the Mayo Clinic, are taking their websites a step further by building responsive sites that emphasize the mobile experience. Responsive web designs provide optimal viewing no matter what size device a person is using. This is important considering that more than 75 million people across the U.S. use their cell phones to check emails and browse the Internet. Although convenient, building a responsive website is not the only way to optimize mobile viewing. During initial design, your website should, at the very least, be designed to be mobile-friendly, so it's easy to navigate on smaller devices Mobile apps have also proven to be beneficial for some providers. The Mayo Clinic's pregnancy app, for example, is designed to help mothers by allowing them to book appointments and to

access health information.

Once your website is optimized for patient ease, it's time to focus on Search Engine Optimization or SEO. There are countless companies that offer SEO both locally and nationally. Although these services can help boost visibility, in some cases, they can be pretty pricey and may require a contract. Make sure to research these companies in order to find the right fit.

There are a few things you can do in-house to help land your site at the top of the search list. First, consider purchasing additional domain names that include keywords someone might use to find you online. Next, make sure you have at least 500 words on your homepage that thoroughly describe your practice.

Your footer is also important when it comes to Search Engine Optimization. It should include your areas of practice and other services that someone might search to find you.

Once you've implemented techniques to enhance Search Engine Optimization, it's time to target new patients and attact them to your site. This is done through Online Targeted Marketing.

Online Targeted Marketing allows businesses to effectively market to their target audience while building brand awareness. Targeted Marketing campaigns can pinpoint people within certain demographics such as where they live, how many children they have, if they are married or not, how much money they make and even by their past online searches. This is a good way to educate your potential new patient base about you and your practice.

Online Targeted Marketing not only helps maximize reach and effectiveness, it also allows for multiple messages and creative concepts, so there is no shelf life. Many physicians use an aggressive digital strategy built around patient testimonials and health information in order to position them as the trusted expert in their field. This, combined with similar messaging on social media, helps with consistency and reach.

I know that a lot of physicians tend to shy away from social media, but the fact of the matter is that social networking sites have transformed the way we connect and engage with people. Just to give you an idea of its impact: more than 1.35 billion people log in to Facebook every day, and 70% of them use Facebook to research products and services. No other platform allows for instant information sharing, enhanced social interaction or the opportunity to reach an exponential number of new patients. Many providers use social media sites to share patient stories, leading to one of the best marketing tools of all, word of mouth.

Your social media strategy should not be a separate entity from your website. Instead, it should be integrated with your site, working seamlessly to increase awareness and to achieve your marketing goals. Adopting a social media plan as part of your online marketing strategy can help you stay connected with existing patients while reaching new patients.

Of course, one of the best things about digital marketing is being able to analyze its effectiveness every step of the way. With return on investment at the top of everyone's agenda, measurability is a huge draw. Weekly and monthly reports help determine when and where a campaign should be tweaked in order to get the most out of your digital efforts. By comparing analytics from your website to analytics from your digital campaign, you can finetune your marketing to ensure you are getting in front of the right people at the right places.

When you're ready to dive into the digital world of marketing, it's best to first develop a strategic plan that incorporates a combination of both digital and traditional approaches. This will serve as a road map to achieve your marketing goals. Don't be afraid to change your plan if you aren't getting the best bang for your buck. By conducting a marketing audit, you'll be able to identify areas that need to be improved and quickly make those adjustments.

Finally, beware of abandoning your digital efforts too early. Many businesses have a negative knee jerk reaction when they don't see an increase in clients right away. It usually takes five or more encounters with your practice's name for it to be recognized and several months to feel the full effect of a strictly traditional campaign.





Digital Remains – Social Media and Grief

by Stephanie Rogers, GCCA-C, CT Grief Counselor, Amarillo Hospice of the Plains

arcy was 32 years old when she chose to end her life by suicide with an overdose of sleeping pills. As most 28 year olds, Marcy was very active on Facebook. She used it not only to keep in touch with family and friends but as a platform from which she marketed her home-based vintage clothing business. While Marcy's 55 year old mother, Elaine, was also a Facebook friend. Elaine was not an active Facebook user until her daughter's death. Following the funeral, Elaine was told by more than one person that they had learned of Marcy's death on Facebook and that they had left messages there they hoped Elaine would read. A few of weeks later, curious to see if and how her daughter's death was being discussed, Elaine logged into Facebook and was amazed by what she saw.

Both Marcy's personal Facebook Timeline and the page for her business were covered with comments. Elaine scrolled through a seemingly endless stream of thoughts and prayers, photographs and stories, some from names she recognized, most from strangers, many from other countries. The messages were loving and supportive and many of them introduced Elaine to a side of her daughter she did not know. She was especially surprised to see how Marcy's business had grown to include customers from around the world. When she logged off, she noticed that, although she was still full of sadness, her heart seemed a bit lighter; she felt less alone, and was grateful for the very real support she had gotten from the words of people she would never meet.

A couple of months later, Elaine found herself in the middle of an especially rough day when she remembered her earlier Facebook experience. She booted up her computer, thinking how nice it would be to read more words of encouragement and to perhaps even see new photographs and stories of her daughter. When she logged into Facebook, she was taken aback to see Marcy's smiling face in different places next to various notifications on her timeline. The sight was jarring, but, Elaine reminded herself, it was to be expected. Still, she wondered if this would go on forever -- What happens to someone's Facebook account after they die? Elaine knew she did not have Marcy's account information; she wondered if anyone did and if so, how would she ever find out? It was

| continued on page 16

Be A Part Of The Circle

Gold Level Amarillo National Bank Neely, Craig & Walton Insurance Agency Texas Medical Association Insurance Trust Texas Medical Liability Trust Texas Tech University Health Sciences Center School of Medicine Panhandle Eye Group Silver Level Professional Healthcare Management

<u>Bronze Level</u> The Cottages at Quail Creek Pat Davis Properties Park Central Retirement Community

Phanillo . Tet

The Circle of Friends is a non-profit organization founded to support the philosophy and goals of The Don & Sybil Harrington Cancer Center. Its purpose is to provide financial assistance to cancer patients and their families in times of crisis and to support education and research programs directed toward improving the patients' quality of life. Financial support is available for cancer patients receiving treatment in the Harrington Cancer Center's service area. The Circle of Friends assists with services not covered by insurance or available through other agencies. Limited funds are available for out-of-pocket expenses such as travel, lodging, prescribed nutritional supplements and other special needs.

For more information on becoming a member of the Circle of Friends, please contact the Development Office at 806-212-3205.

too much for her to think about right now. She had come here for support, not confusion, so she clicked over to Marcy's timeline.

She smiled to see that even months after her death, her daughter's page was still busy with activity. There were many new posts, most full of hope and good will. But not all. Some posters took Marcy's decision to end her own life as an opportunity to share their personal opinions about suicide, many of which were not only unkind, but cruel. One person had written that Marcy would "burn in hell" for having killed herself. Elaine, shaking with rage and confusion, slammed shut her laptop, feeling more alone in her grief than ever.

Social media has changed not only the way we live, but the way we die. The internet allows us to die as publicly as we may want, sometimes, as in the case of high-profile deaths, even more publicly than we may find comfortable. The same is true for grief.

At its most basic level, social media creates community. Facebook, LinkedIn, Twitter, et. al., form distinct communities, each with their own individual culture, and yet there are certain characteristics that they all share. For the purpose of this article, we will refer to Facebook as the most representative and certainly the best known of all the social media platforms.

In general, the social media communities have been described as superficial and narcissistic; artificial environments in which distance creates both buffers and catalysts for the anonymous expression of pain, anger, boredom, loneliness, or triumph. And yet somehow, expressions of grief within these communities manage to go beyond this generalization to become something recognized as completely genuine and surprisingly supportive. One of the main reasons for this is the universality of the grief experience.

Aristotle said, "Grief shared is grief diminished". Grief is an experience common to all human beings, and as human beings we have an inherent need to share this experience. The latter half of the 20th century saw the dissolution of many culturally recognized signs of mourning, not only in the United States but in much of the Western world. The first fifteen years of the 21st century have seen the internet in general and social media specifically replace black armbands and widow's weeds as evidence of just how deeply we share the experience of grief.

Social media has transformed grief from a private experience generally shared by the deceased's inner circle of family and a few friends into a public experience available not only to intimates but to total strangers. The resultant shift has both positive and problematic implications, many of which are ambiguous in both cause and effect, almost all of which can be seen in the non-fictional account of Elaine's Facebook grief experience.

The break down is something like this:

once the decision is made, how does a digital heir manage a virtual estate?

Social media itself is beginning to try to answer those questions. Perhaps the best example of this is a site called, "Dead Social" (www.deadsocial.org). Dead Social is a free service with which social media users can create video or text messages to be timed for broadcast from their social media accounts months or even years after their death. The user designates a "digital executor" who prior to the user's death accepts the responsibility of activating the Dead Social notification system once the user has died. Upon activation, the user's pre-written or pre-recorded messages are dispersed to his social media sites as directed. The digital executor does not have access to these messages, so that the user's wishes are assured of being

Pros	Cons
 Creates a virtual wake in which geographically distant people share stories and photographs of the deceased Provides a sense of community for the bereaved who cannot be together physically. This is especially helpful to adolescents and young adults who tend to turn to peers rather than family during bereavement. The distance provided by interacting through social media feels safe, allowing posters to share in an way thoughts they might keep to themselves in the three dimensional world Creates an eternal memorial to the deceased that is always available 	 The deceased is no longer alive to monitor what is/is not shared The public aspect of the community is not at all supportive for some, especially for those not born into the digital age This unedited sharing can be confusing and hurtful to other family members and friends This availability is not always welcome and creates questions that are not always easily answered such as: Who becomes the caretaker of this memorial? Is it left up forever? Who makes the decision to take it down and how is that done?

Some social media platforms have begun to address these issues. For example, Google+ has given its users the ability to name a "digital heir" who will have access to all Google accounts after a user's death. Facebook has created an option for "memorializing" an account which basically allows an account to be frozen in time forever. The memorialized account is then monitored by a "legacy contact" chosen by the Facebook user.

But who becomes the "digital heir" or "legacy contact"? Who even really knows that such options exist? And followed exactly as he wished.

Social media can no longer be considered a passing fad just for young people. It has become a part of mainstream culture and as such has affected the way we interact with each other and with the larger world around us. Estates are no longer a matter of property nor even of who gets the boxes full of discolored photographs and yellowing letters. When we die, we now leave digital estates, invisible legacies, the disposition of which can have great effect on how our loved ones grieve our loss.

Eh... Where's your mobile app doc?

by Ali J. Farsio Technical Project Manager – Bloomreach, Mountain View, CA.

or businesses, the days of reaching out with only a desktop or mobile website are over. Today, consumers demand mobile apps with rich userinterfaces that allow them to quickly and easily perform complex tasks.

Mobile apps allow users to access your brand or product quickly while they're on the go. Regardless of the industry, mobile applications can definitely be one way to help increase the profit of any business and help with brand recognition and customer loyalty.

Maybe you already have a mobile website and you think that's enough. It's a start, but mobile apps have the potential to provide a much richer user experience. Mobile apps are specifically developed with smartphones in mind. A user can simply tap the app and immediately see the information they're looking for and the steps they need to take to accomplish a given task.

And face it: Mobile is the future. The younger generation spends more time on their mobile devices than they spend on desktop computers. The same holds for many older users, too.

But deciding to launch a mobile app is only the beginning. You, of course want to launch a good app. A quality app should:

- be focused on the target audience
- provide most of the functions found on a desktop website
- include options for users or customers to get in touch with your company when they need to.

Mobile apps can require a significant amount of development and investment. But you can build a simple app with minimal effort and costs. In fact, there are many services available now that will build a simple app at a cost that might surprise you. And in return, you provide a way for your customers to complete the tasks they need to complete without booting up their desktops. They might well repay you with brand loyalty.

As a medical professional, you may not see the need to have a mobile app featuring your practice. Maybe you already have a good patient database and your patients can easily go to your website to access most of the information they need. But that's exactly why you need an app.

Building an app will differentiate you from your competition, who themselves haven't seen the reason for a mobile app. The fact is, your patients -- and your prospective patients -- are looking for medical apps.

According to policy brief on mobile health by the Robert Wood Johnson Foundation, published in the journal Health Affairs: By 2018, "half of the 3.4 billion mobile device users worldwide will download a health app." No doubt these number drive the healthcare system to adapt to meet these demands.

So, think of your own current system, whether it's a website or a mobile app. And ask yourself, can your patients use it to:

- quickly make or change an appointment?
- learn more about common procedures or ask a quick question?
- send you a secure message?
- review their medical information?
- update insurance information?

- view health records, such as vaccinations?
- pay their bills?

These are just a few of the services that patients frequently want to access quickly and on the go. Not only does providing such options mean more convenience for patients, but it also allows them to be more responsible concerning their own well-being. We've come to expect immediate and convenient access with any other service, so why not have it with something as important and vital as our health care?

And it's not just the patient who benefits. On the doctor side, you could upload your own articles or daily fitness guides to the app, while recommending that your patients read them. The possibilities are endless.

In addition to creating your mobile application, you must also make sure that other services (such as Zocdoc, screenshot below) which help connect patients to doctors are up to date with your office's information. Many insurance companies and other 3rd party companies offer services and mobile applications to help find doctors for prospective patients. Patients can simply search what doctors are close to them, or even more specifically, see what specialists there are, which ones accept their insurance, and book an appointment all on the same site or mobile application. Would a patient be able to find your office? This goes beyond making sure your patient reviews are good; this is to make sure you are integrated with these other services which allow new patients to be able to search your office and quickly

find you and view your specialties and profile. If by now, going through this article you have answered "No, they can't" to some of the patient scenarios I presented earlier, it may be time to jump on your mobile development and get going. If you have answered, "Yes, they can," that's great to hear, continue it; you are definitely part of a small percentage.

In the final analysis, building a high-quality mobile application is all about better communication between you and your patients. The right app will let patients make better health-care decisions, view their medical histories and quickly schedule visits when they need to. What better way to promote your name and your business than by providing an additional service to your patients that can benefit them -- and you.

***Below are examples of some sites which can create a mobile APP for your business. Please be advised that I do not endorse any of the listings mentioned in this article; they are merely for reference.

www.como.com/

www.infinitemonkeys.mobi/

http://www.appmakr.com/

Edits by,

Mike Cassidy

AVOID SOCIAL MEDIA PITFALLS: TOP 10 TIPS

- SOCIAL MEDIA CREATES A PUBLIC AND PERMANENT RECORD An electronic trail is left that can be disseminated to third parties in an instant. Think ahead before you press "send" or "post."
- REFRAIN FROM POSTING IDENTIFIABLE PATIENT INFORMATION ONLINE Names, DOBs, contact information, photographs, x-rays, and details of patient care that a health care provider obtains from a patient should not be disclosed in social media channels. See AMA Opinion 9.124 (a).*
- NO ASSUMPTIONS OF PRIVACY Providers should use privacy settings so as to safeguard their own personal information and content. But privacy settings are not absolute. Providers should monitor content posted about them by others to ensure propriety and accuracy. See AMA Opinion 9.124 (b).*
- MAINTAIN PROPER BOUNDARIES Just as in any other context (personal, telephonic, etc.), when interacting with patients via social media, a provider must maintain appropriate boundaries for the relationship in accordance with professional ethical guidelines. See AMA Opinion 9.124 (c).*
- 5 KEEP BUSINESS SEPARATE FROM PERSONAL See AMA Opinion 9.124 (d).* Monitor to make sure that interactions with patients remain consistent with business purposes. If specific clinical advice is sought through a personal Facebook inquiry, do not communicate specific advice back to the patient. Instead, direct them to your professional page.
- 6 AVOID QUESTIONABLE CONTENT Unprofessional content (whether business or personal) can be viewed by state medical boards, professional societies, and health care entities as undermining public trust in the medical profession, which may create a basis for adverse action. See AMA Opinion 9.124 (f).*
- UNPROFESSIONAL CONTENT OF COLLEAGUES Unprofessional content posted by colleagues, if not removed, may possibly require reporting to these same authorities. See AMA Opinion 9.124 (e).*
- KEEP ONLINE RESPONSES GENERAL A provider may not reveal a patient's PHI acquired in a clinical setting. Keep postings and online responses general and non-specific to patient. Instead of responding specifically, request that the patient come in for a clinical appointment or inquire to your office by telephone.
- EMPLOYED PHYSICIANS SHOULD ASK If you are an employed physician, follow any social policies and get approval from employer for specific posts. Avoid disclosing proprietary and trade secret information. For personal accounts of physician, consider using a disclaimer stating that posts are personal views and not those of the employer.
- PAY ATTENTION TO YOUR ONLINE PRESENCE Put time and effort towards your online presence. Keep resources current and accurate. Blogs require attention monthly, if not weekly. Determine what Yelp, Angie's List, Rate MDs.com, and HealthGrades are saying about your practice, make it easy for your satisfied patients to write reviews, and don't overreact to a few isolated negative reviews.

*American Medical Association Code of Medical Ethics Opinions on Confidentiality of Patient Information: Professionalism in the Use of Social Media (June 2011).



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Have a Heart for Physicians

As physicians, you know the greatest calling in life is to help those in need. The PHR Assistance Fund of Texas Medical Association does just that. The fund provides loans for medical and/or rehabilitative services for impaired physicians. Please help physicians who are in recovery and need financial assistance. We rely on donations to help us continue this important work. Send your heartfelt donations to the PHR Assistance Fund at 401 West 15th Street, Austin, TX 78701-1680. Or call Linda Kuhn at TMA at (800) 880-1300, ext. 1342, or (512) 370-1342 for information.



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The Why - Going Online With Your Practice

by Charley Schmitz – E Beyond Inc.

here are many providers of corporate web services adept in the process of building a corporate web presence. Given that everyone offers solutions that vary in size and types of functionality, the process for building most solutions boils down to some very basic steps to ensure that you get what you came for. I have spent a total of over 30 years working at in-house corporate marketing and for large ad agency environments. For the last 12 years or so, I have done it for myself and my clients. I have seen both sides of the client/agency coin. This article is a brief overview to shed a little light on those processes so that you know what to expect. The rules I try and adhere to should ring true for most clients, including medical practices.

Why are you investing the money and time in a web presence?

In my experience, most corporate sites or online data driven tools fall into one or more of three categories:

Sites/Tools that Generate Revenue Sites/Tools that Increase Productivity Sites/Tools that build Client/personal relationships

Much like any project or process, before any potential client spends money on a corporate or online presence, it is important to spend some time determining what the business goals are. It may sound over simplified, but too many business owners do not have a clear answer other than "we need a website". If I were looking for an analogy, it might be "it hurts but I don't know where".

Spending a little time and answering the "why" as it applies to your specific practice will help you achieve your online goals, help you justify the cost and help you avoid being sold a finished product or complex solution with content that doesn't apply or tools that you will never use.

Most companies have a set of specific steps to produce a web presence for potential clients. While they vary from company to company, below is an overview. Research Planning Design Feedback Development Testing Soft Launch

These are general but cover most of what you will find with the majority of providers.

Research / Planning

This is the phase where the provider should get feedback from you about your specific business and how it operates. This is also when they should determine what your specific long and short term business goals are for the project/website. It is important that you spend the time here to make sure that what you are buying achieves your goals. Also, it is a good idea to have your provider build a site flow document. This is essentially your blueprint for what they will produce. It will give you a visual overview of all pages on the proposed site and the type of functionality it will include. This document will also help determine the timeframe to complete the project and the overall cost.

Design / Feedback

Based on the feedback from the research, your provider should put initial design concepts together for presentation. Depending on the contractual agreement, normally this could be 1-3 directions. These designs should mirror the provided site flow document and take into account the feedback from your conversations with them. If you have an existing marketing direction with other materials produced, the provider should take this into account. Your online presence should in some way tie in to your other materials. It is important that everything works together towards the established business goals. Once the design direction is approved, the project should move into development.

Development

This is the phase of the project where the provider will write the appropriate code for the project, and break out the approved designs. This is where most of the time on the project will be spent. Any additional documents, movies or images that are needed are gathered at this stage.

Another area that traditionally takes a large amount of time is writing the content for the project. Some clients opt to write their own content as it is very specific to their business or practice. If this is the case for you it is best to start writing early. This can also take a very long time to produce and must be done before a site can be completed.

Once a site is completed with all images, content and functionality, it is ready for testing and feedback.

Testing / Soft Launch

Most firms will go through this phase by testing the navigation and functionality for the entire site. Any desired changes are addressed and put into place. Once everything appears to be working properly, you should be given access for a review period. Once all issues are addressed, a time can be scheduled to "Soft Launch" or push the website live. All content and functionality are moved to the appropriate final web hosting provider and the site is reviewed again for final approvals.

Search Engines and Social Media

If you build it, they will come does not apply here. You are competing online with hundreds, if not thousands of other businesses who are looking for new clients. Without much exception, all sites should take into account some form of "Search Engine Optimization" and "Social Media" components.

Search engine optimization requires research to determine what online users are actually searching for, and what changes need to be made to your site to attract more traffic. There is a plethora of information on the

subject, and traditionally we work with individuals and companies that are focused on search engine marketing. In the least, your online marketing should include what is called "Organic Search Optimization". This includes research and recommendations for content changes that will essentially help your site rise in the search engines when specific terms are searched for. This can be done at the time the content for the project is written, or after the soft launch of the website. It takes time for these changes to have a positive effect in the search engines. The next most used search engine tactic is "Pay For Placement", such as Google Ad Words. This requires a client to pay for better placement in the search results based on specific keywords. Depending on the business type, the amount of other like businesses you are competing against, and the budget you have, this may or may not be something that is productive for your business or practice.

Social media has become a major player for most businesses in their online marketing. For medical practices, this is no exception. Positive feedback and posts from patients are great indicator for patients looking for a provider. The flip side of that scenario is bad feedback can move a potential client to another provider. This is why maintaining a Facebook page for your practice depends on weekly if not daily maintenance. If possible, it is important that this ties into the content and functionality you build into your corporate website. Visitors to your website and Facebook pages react more positively if your content is fresh and up to date.

Conclusion

There are many ways to grow your practice using a combination of online tools. It is important to remember that whatever solutions you choose, they are not static investments - They need to be maintained and kept up to date. The key is to find the most effective combination for your practice type, location and competition. It does take time, but with the proper investment of time and budget, you can achieve the results you plan for, short term or long term.

If you have questions or need to consult about a presence for your practice, I can be reached at chschmitz@ cox.net or 405-627-4257.



Physician's Guide to Social Media

UNDERSTANDING SOCIAL MEDIA: TOP 10 TIPS

- BE AWARE OF THE EFFECT OF SOCIAL MEDIA Standards of medical care do not change by virtue of the tools used to interact. But these powerful tools may have unforeseen consequences, depending on the type of social media and the goals for use.
- KEEP CURRENT WITH MEDICAL NEWS AND DEVELOPMENTS Resources abound, but make sure they are reliable authority for your subspecialty.
- MAINTAIN PROFESSIONAL PRESENCE AND ENRICH PROFESSIONAL NETWORK Use Facebook, LinkedIn, Twitter, and other social media sites to maintain your professional presence and connect with colleagues, referral sources, and patients. A patient can "like" your Facebook page and be routed through regular patient intake and practice communications channels. Make sure that all credentials, representations, and claims are accurate, current, and do not constitute false advertising.
- 4 EDUCATE AND INFORM YOUR PATIENTS General advice specific to your subspecialty can be posted on professional pages as well as on blogs. Always keep the information current and meaningful to your audience. Avoid disclosing Protected Health Information (PHI) that you obtain on a patient as a treating physician. Never use specific patient details as revealing details of medical care may violate HIPAA and patient privacy laws. Focus instead on general conditions and treatment options at a community level.
- **BE A COMMUNITY RESOURCE** Always keep in mind your professional image to the public. If you link to other websites, verify them as reliable authority and always give credit when due.
- ASSIST COLLEAGUES OR OBTAIN ASSISTANCE Closed physician networks (such as Sermo, Medscape, Quantia MD) allow physicians to disclose general patient conditions and solicit input from colleagues. Participants should avoid specific details and photographs (especially of facial areas) that may violate HIPAA and patient privacy laws. And keep in mind that even if other physicians participate in such closed networks, it does not mean that disclosure of PHI is legal or allowed.
- **AVOID GIVING MEDICAL ADVICE OR TREATMENT** In using social media, a provider must absolutely guard the PHI obtained as a covered entity under HIPAA and avoid accessing PHI of non-patients. A provider should not disclose any PHI to any third party via social media, even with privacy settings.
- S CONSIDER RECORDINGS "OFF LIMITS" While it may not be illegal in your state to record a conversation or interaction over the phone or in person if you are a party to it (check state law), never surreptitiously record any patient interaction. Think twice before doing so even when a patient consents. And even with consent, never post such recordings on YouTube or any other such site, even with privacy settings.
- OKAY TO MAINTAIN PERSONAL SOCIAL MEDIA Just as physicians can have friends and a personal life, having a Facebook page or a personal blog is acceptable as long as the content does not undermine the public trust in the medical profession. Also, a physician must be vigilant in keeping personal social media sites personal and directing patients asking for clinical advice through regular patient intake and communications channels.
- USE YOUR GOOD JUDGMENT If any certain social media interaction does not sit well with you, just say no. Don't become an online example of bad judgment.

For additional tips visit The Doctor's Advocate blog, www.doctor-advocate.com.



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Minority Scholarship Program Physicians Caring for Texans

SEO: The Evolution of Connecting Business with Customers

By Richard Deede

What is SEO? This is a term that you may be completely unfamiliar with or perhaps you understand it's about "doing well in Google". But to really understand what SEO is and what value it brings, we need first to start with a bit of a history lesson and why SEO is such an important part of our digital world today.

People have always searched for information. Today, it is easier than ever to find the information you need, when you need it, but less than 20 years ago the way people searched for information was much different than it is now. Where people use to rely on the encyclopedia, word of mouth, the newspaper and the yellow pages to find information, today people turn to Google, social media and their always accessible electronic devices to be able to access information and products all day, every day.

Because information is more readily accessible today than it ever has been before, the general public is more highly informed and more aware of the surrounding world. This means information must be current, relevant and easily accessible at all times. This is the basis of why a proper SEO content strategy is vital in today's digital world.

What is SEO?

SEO stands for Search Engine Optimization and is the optimization of your content to be able to appear as highly as possible when people search for your business, product or information related to your field. SEO is a practice that has been used since Google launched in the late 90s; however, the techniques involved today are much different than when Google first started, and what was effective then is drastically different than what is effective today. And honestly, 5 years from now it will be different from how we know it today. This is the nature of the digital world we live in, and this is the nature of SEO.

10 years ago if you did a search

on Google you would see the first page results filled with webpages that contained the keywords you searched for. Today, you will see some webpages as you did before containing the exact keywords you searched for but you will also see webpages with similar, but highly relevant content as well videos, images, news stories, social sites and results from Google maps. The search results are much more diverse today than in the past and thus our strategy from an optimization perspective has to reflect that.

SEO Primer

SEO today is still based upon the same core principle as it always has been, and that is a focus on content. This means having the right content that people are interested in and searching for. In addition we also have to make sure we are using terminology that resonates with our intended audience and sometimes that means using different terminology that receives higher interest than terminology that may be more "technically" correct.

For example: People search for the term "Cosmetic Surgery" on average 12,100 times/ month. Compare this with the term "Plastic Surgery" and we see that people search for that term on average 49,500 times/month. These two terms are essentially describing the same thing, but people are much more inclined to search for "Plastic Surgery" than they are for "Cosmetic Surgery". When you look at the difference in people searching over

the course of a year, this is a difference of close to half a million more people searching for that more popular term. SEO will inform how people are searching and what keywords and more importantly what type of content should appear on their website in order to reach the highest number of relevant searchers.

SEO Content Strategy: Talking the Talk

The first step in the SEO process is determining the proper keywords that are relevant to the business and meaningful to your potential audience. Once that list of keywords is determined we need to ensure we have the right content on the website to support those keywords that we would like to appear in search results for. This is one of the many places Google has changed over time. It no longer is good enough to throw your keywords in to a Meta Tag and your work is done. You now really need to focus on producing high quality, relevant content that centers on whatever keyword phrase you wish to target. And even more than that, your content has to be robust (ie. more than a single page of content where applicable) and consistently fresh (ie. it's more difficult for old content that hasn't been refreshed in a while to outperform fresh new relevant content).

And when we talk about content, it's more than just web pages with text. While text content is still highly impor-

| continued on page 24

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tant, the definition of what content is has expanded and can include video, images, infographics, press releases, social content and more. The digital landscape isn't one dimensional and your SEO content strategy shouldn't be either.

SEO Technical Optimization: Walking the Walk

The second step in the SEO process is ensuring your site is technically proficient and doesn't present any roadblocks to search engines. To put it in easier terms: think of SEO technical optimization as the construction of your home. Imagine you build a beautiful new house and take painstaking efforts to choose all the exact finishes that you like. You spend good money to install high end appliances, flooring and fixtures. The house is beautiful inside and is all done now but there is only one problem. You forgot to install a front door on the house. No one is able to get in to see any of the inside of the house, and all the effort you put in to perfecting your house is wasted since it's completely inaccessible. This is essentially what SEO technical optimization is about. It's about ensuring that all of the great content you have created can be found easily and efficiently.

There are a variety of elements that could slow down or even block the content of your website from being found. Javascript, Flash, large images, and forms are just some of the elements that need to be implemented properly, as they can easily cause big headaches and seriously impact your performance in Google and other major search engines. The good news is that there are always multiple ways to address any technical issue that may present itself. This means that, if the "ideal" solution isn't viable, either due to limits of your Content Management System (CMS) or hosting provider, there is usually one or more alternate solutions that can be implemented to remedy the situation.

SEO Link Building: Googles Popularity Contest

The third and final pillar in the foundation of a comprehensive SEO strategy is a concept known as "link building". This is a topic that easily could have its own dedicated article, but I'll provide a highlevel overview now so you can understand the basic concept and the overall importance of this portion of SEO.

When Google first launched, the very

first criteria in their algorithm was linking. What this meant was that if Website "A" created a link that pointed to Site "B", that was considered by Google to be a vote of confidence for Site "B" which would cause Site "B" to rise in the search results. Essentially Google started off as a popularity contest.

Links are still a critical portion of the Google algorithm, and any site that is going to be successful needs to have links pointing to their website. However, what links are considered "good" or valid has changed dramatically over time due to spammers trying to take advantage of the system. What you should know now is that you should try to acquire links from high quality websites that are related to the content of your website. It doesn't pay to link a TV repair website to a cardiologist website. There is little real world connection between these two businesses and thus Google will not give any real value to that linking relationship either.

SEO: Beyond the Basics: Optimizing for a Constantly Evolving Landscape

Using the basics outlined above will help build a solid foundation of success, but in order to remain relevant and keep performing well there are additional steps you should be taking. The following are a list of items to consider in order to separate yourself from your competition and stay at the top of search results.

• Stay Fresh - In today's world, new information is a must for an information-hungry society. You should be adopting this mindset and always pushing to develop new content and refreshing your old content on a regular basis. If you become stale, you will lose ground to those who remain fresh.

• Everything can be optimized - All of your digital assets have value and can be searched for. This means that they should all be optimized. This includes the text on your website, your images, your videos, and your PDF files. All of it can potentially reach someone searching, so it should all be optimized.

• Meet Your Audience Where They Are - The digital world today is ever expanding. You can find branded content not only on traditional websites, but on a large variety of social channels (Facebook, Pinterest, Twitter, Instagram, Tumblr, etc...) but also YouTube (The 2nd largest search engine) and Mobile Apps (iTunes App Store and Google Play Store). All of these are avenues where content can be placed to reach an audience. It really depends on who you are trying to reach and what type of content resonates with them. You should be thinking about creating content tailored for those platforms that is optimized appropriately. All content, no matter where it lives, can be optimized.

SEO is a process that is constantly evolving just as the digital world continues to evolve. In order to effectively reach our targeted audience, we must be thinking about what content is meaningful to them and what types of information they are looking for. Use SEO to understand what drives your audience and you will learn how to best speak to them and eventually turn them in to customers.

About the Author:

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Mobile Device Security

(Access Control, Application Security, Text Messaging)

by Cara King, MBA, CISSP, CISM, CISA

Disclaimer: The information provided in this article is a compilation of my personal opinions and research and does not represent the official opinion of any individual, department, or division of BSA Health System or Ardent Health Services.

obile device use is growing exponentially within healthcare environments as they are being leveraged to streamline workflow and provide quicker care to patients. Mobile device security and evolving policies are becoming an increasingly important issue to handle as the Health Information Portability and Accountability Act (HIPAA) is becoming more of a security concern. Tablet computers and smartphones are being used to supplement access to information, instead of through the standard information technology (IT) managed desktop computer platform. The 2014 Analytics Mobile Devices Study conducted by the Healthcare Information and Management Systems Society (HIMSS), indicates two-thirds of clinicians in their study (68.3 percent) reported using both a desktop/laptop computer and a smartphone/tablet computer to access information.¹

As the migration from paper to electronic health records increases, so will the potential for breaches of protected health information (PHI) increase. Over 40 million patient health records were breached during 2009 - 2014. This total does not include Anthem's January 2015 record breach count of 80 million.² The rise in health record breaches may be attributed to the value patient data provides to the black market. Reuters reported that during the last quarter of 2014, medical records were worth ten times more than credit card numbers on the black market. Credentials obtained from these records, such as names, dates of birth, policy numbers, diagnosis codes and billing information can be used to create fake identifications to buy medical equipment or drugs that can be resold.³

Potential PHI breaches raise concerns

of risk to the healthcare organization's reputation, as well as substantial costs from fines, legal fees, and remediation of issues, to name just a few. For example, due to a lack of technical safeguards within the shared services network of the New York-Presbyterian Hospital and Columbia University Medical Center, both organizations have collectively paid the Department of Health and Human Services' Office for Civil Rights \$4.8 million for failing to secure the electronic PHI (ePHI) of 6,800 individuals.⁴

Access Control

As the foundation of an information security program, access control is the method of protecting systems and applications from unauthorized access while managing legitimate user access to the minimum necessary information needed to perform job functions.

What Are Access Control Risks?

While mobile devices provide portability, this attribute is also its greatest weakness. Loss of devices is one of the highest sources of a data breach. The Ponemon Institute's fourth annual Patient Privacy & Data Security Study identified the primary cause of data breaches was due to lost or stolen computing devices (49 percent), followed by unintentional employee action.⁵

Some examples of data breaches from loss of devices include:

Horizon Blue Cross Blue Shield of New Jersey (BCBSNJ) Laptop Theft

Horizon Blue Cross Blue Shield of New Jersey (BCBSNJ) announced that two unencrypted laptops containing PHI of approximately 840,000 members were stolen. These cable-locked and password-protected laptops contained names, addresses, member identification numbers, birth dates, social security numbers, and clinical information.⁶

Alhambra Hospital Medical Center (AHMC) Healthcare Inc. Laptop Theft Alhambra Hospital Medical Center (AHMC) Healthcare Inc. stated that PHI for approximately 729,000 patients was compromised following the theft of two laptops. These laptops that were password-protected and secured in an office contained PHI of patients treated at six AHMC hospitals.⁷

Concentra Health Services Laptop Theft

Concentra Health Services, a subsidiary of Humana and a provider of occupational medicine, has agreed to pay the Office for Civil Rights more than \$1.7 million in a HIPAA privacy and security rule settlement from a theft of a laptop computer that lacked data-protecting encryption.⁸

What Measures Can Be Implemented for Access Control? Password Protection

Most mobile devices have the capability of applying basic security options of a personal identification number (PIN) or password protection. Configuring a unique password with complexity, or a PIN when there is no password capability, can provide the first level of defense. The more complex the alpha-numeric password, the better the protection.

Where passwords and PINs provide single-factor authentication, two-factor authentication (something you have and something you know) can provide a higher level of security. Since passwords and PINs can be written down, stolen, or guessed, two-factor authentication relies on a second mean of identification, such as a physical token, along with a security code. In some two-factor authentication schemes, the mobile phone itself may be used as the second factor by either generating a pass code or a pass code may be sent to the device.

Automatic Logoff

Enabling the automatic logoff capability





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Professional Healthcare Management, LLC 2750 Duniven Circle, Suite C Amarillo, TX 79109 806-381-1155 will help secure the mobile device by terminating the session after a set time of inactivity. Because the appropriate user password or PIN will need to be applied to gain access, automatic logoff provides an additional layer of security by preventing, or slowing down, unauthorized access. Encryption

While passwords, PINs, and automatic logoff can provide a basic level of protection, it may not be enough for the type of data being stored as there is high potential that these protections can be cracked. Encryption can be applied to help ensure that data is still protected. In the case of protecting ePHI, HIPAA recognizes encryption as providing confidentiality. Thus, the HIPAA Security Rule, located in the Code of Federal Regulations (CFR) Title 45, Part 164, Subpart C, includes encryption as an addressable access control implementation based upon a covered entity's risk assessment for protecting ePHI.9

The majority of mobile devices now have built-in encryption capabilities, while some may require an encryption tool to be bought and then installed on the device. It is important to research encryption options to find the best solution for the chosen mobile device. Also significant is implementing procedures for staff to know how to access the encrypted device in case of an emergency or if a password has been forgotten.

Remote Protection (Locate, Wipe, Lock, Passcode Reset)

Most major smartphone platforms have a locator feature and remote protection capability, such as wiping, locking, or resetting the passcode. There are also a few ways of deploying this capability, either by installing an application on the device, using a management console, or utilizing a cloudbased service.

In the case when a device is lost or stolen, a greater level of security can be gained when encryption is coupled with remote wipe. Remote wipe provides the capability of erasing data once it is discovered the device is missing. A full wipe is designed to remove all company and user data and settings as it restores the device to its factory default settings, whereas a selective wipe can be setup to

remove only company data.

Application Security

Application security is the protection of mobile applications from external threats by integrating security capabilities throughout the life of the application. What Are Application Security Risks?

Mobile applications with poor security capabilities can lead to a data breach, so it is increasingly vital that secure applications are chosen as more healthcare organizations are implementing mobile devices. If applications running on mobile devices are susceptible to exploitation, then the services and data the applications leverage are at risk. An increasing number of these devices are not only connecting to the healthcare network, but are also accessing business applications and content repositories, causing risks to pervade the network.

What Measures Can Be Implemented For Application Security?

Healthcare staff may download applications containing malicious software, known as malware, that can potentially exploit the device. Malware can be installed and can infiltrate the system unknowingly to staff because of how it can be camouflaged as a legitimate application. As it can be difficult for staff to tell the difference between a legitimate application and one containing malware, it is important to install anti-malware to protect against malicious application propagation.

Regularly applying software updates, also known as patching, is important in minimizing exploitation from software vulnerabilities. Most mobile devices can be configured to receive these updates promptly.

Vetting applications through a review process before deployment on the mobile devices will facilitate in identifying vulnerabilities within the software and any incompatibilities with other applications and systems. In the best case, it is recommended that applications be installed by the organization IT department. At a minimum, it is advisable that applications should only be installed from trusted application sources.

Text Messaging

Text messaging is growing within the

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healthcare environment as it increases clinician workflow, but texting can also present privacy and security risks that may result in data breaches.

What Are Text Messaging Risks?

Short message service (SMS) texting is the traditional, wireless carrier-based text messaging system. Texting can provide several benefits, but SMS messages are not encrypted by default which makes them susceptible to being intercepted.

What Measures Can Be Implemented For Text Messaging?

Evaluate the different solutions for secure text messaging. There are a few solutions developed to address the inherent security weaknesses of existing SMS texting as companies are developing texting platforms that implement encryption of messages, as well as secure login at the application level. While reviewing solutions, keep in mind that the HIPAA Security Rule does not endorse any specific company's solutions.

Encryption for Text Messages In-Transit and At-Rest

Ensure protections are in place for sending messages securely across an untrusted network (such as the Internet), and for messages in storage "at-rest" within the system, to include implementing encryption whenever deemed appropriate for messages containing ePHI.⁹

Recipient Authentication

The secure texting solution should provide a method to ensure the intended individual received the message. This solution may be provided through a means of utilizing the healthcare organization's directory while also providing the technology for sending secure messages to intended recipients external to the organization's directory.

User Authentication

The secure texting solution should require authentication of the user. Users should not be able to log into the secure texting application without first authenticating to it with an unique user identification.

Further Measures

The Joint Commission has recognized risks involved with text messaging and

explicitly restricts the texting of patient orders as stated during 2011 that, "it is not acceptable for physicians or licensed independent practitioners to text orders for patients to the hospital or other healthcare setting. This method provides no ability to verify the identity of the person sending the text and there is no way to keep the original message as validation of what is entered into the medical record."¹⁰

Looking Ahead

Change can be expected with the conventional IT management best practice of keeping devices that handle PHI separate from personal devices as healthcare organizations are rapidly moving toward a "bring your own device" (BYOD) model. The BYOD model allows staff to use their personal mobile devices for business purposes. This often leads to staff accessing a combination of business and personal applications on the same device creating new security challenges. Devices, such as smartphones, are entering an area called mobile health (mhealth), as they are becoming increasingly ubiquitous to enhance the potential to assess and improve healthcare.¹¹ Healthcare organizations adopting this method will need to perform risk assessments in understanding the correct approach to securing their environment. These assessments will help with understanding the differences in security approaches between both unmanaged and IT-managed personal devices and organization-owned devices managed by IT. While BYOD can provide new opportunities for improvements in communications, workflow, and clinical applications, it is also challenging hospitals to respond with new policies and security.12

As technology continues to develop, there will be more opportunities to bridge medical application and system gaps into a mobilized unified communications platform that facilitates optimized care to patients. Applying continuous unified communications administration and risk assessments will facilitate in securing the healthcare environment through effective policies and risk reduction to provide optimum protection of PHI as more mobile devices become interconnected in more complex networks. **References:**

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What does "telemedicine" mean?

by Paul Tullar, M.D.

http://www.ttuhsc.edu/telemedicine/telemedicine.aspx

The basic definition of "telemedicine" used by Texas Tech and other health professionals is the delivery of actual patient health care over a videoconferencing or telecommunications system. The best philosophy and approach to telemedicine is that the same standards of care and protocols applicable to more traditional forms of medicine exist with telemedicine. The physician-patient relationship and interaction are the same. The process should be the same as if the patient were in the room with the doctor.

You also hear terms like "telehealth" and "e-health". Telemedicine is actually a subset of those terms. E-health is the broad category of health merged with electronics or technology in some manner. Telehealth is a more specific category, which encompasses health care and education. And of course, the narrower definition of telemedicine is the delivery of direct medical care with technology.

The History of Telemedicine at Texas Tech

http://www.ttuhsc.edu/telemedicine/generalhistory.aspx

Telemedicine began at Texas Tech University Health Sciences Center (TTUHSC) in 1989 as a grant-funded research project, originally designed to connect the four campuses of the Health Sciences Center located in Lubbock, Amarillo, Odessa, and El Paso. With the use of distance communications for education and teleconferencing, it was logical that links could also be made from the main Lubbock campus to distant rural sites for the purpose of live medical consultations.

The first teleconsultation was conducted in 1990 between a physician from Alpine, Texas, and a consultant in Lubbock. This initial consultation changed the possibilities of medicine in West Texas because patients in remote areas now had access to specialty consultations that previously would have required traveling great distances. During the first week that teleconsultations were conducted, the opportunities and advantages that telemedicine could offer were illustrated when a baby girl's life was saved due to a teleconsultation between her general practitioner in the rural Big Bend area of Texas and a neonatologist in Lubbock (See Aida Porras story).

Between the years of 1990 and 1993, TTUHSC engineers invented "TeleDoc[™]", a single portable integrated package that provides the opportunity for live interactive video consultations. The unit features a roll-about cabinet carrying cameras, TV screens and electronic exam equipment. Since 1993 when the first "TeleDocTM" was developed, technology has really advanced. Telemedicine carts are smaller. use less bandwidth and provide better clarity than in years past. In addition, desktop computers, laptops and even tablets are the wave of the future, allowing telemedicine to be more mobile. . Since the initial consultation in 1990, more than 49,000 consultations have been conducted at Texas Tech University Health Sciences Center. Annual telemedicine examinations number more than 4,700. These consultations have been with patients in various rural communities as well as patients in the Texas Department of Criminal Justice. Specialties being covered by telemedicine include: dermatology, psychiatry, burn, endocrinology, psychotherapy, pulmonology, urology, neurology and genetics.

The telemedicine program at Texas Tech University Health Sciences Center has been recognized nationally through several distinctions and honors. The program was ranked in the top ten programs of its kind by Telemedicine and Telehealth Network Magazine in December 1996 and December 1997 and was included in the "Top 12 List" of telemedicine programs by Telemedicine Today Magazine in June 1998. Texas Tech University Health Sciences Center's telemedicine program was also a feature telemedicine system in Government Video Magazine in April 1998. The Texas Tech telemedicine program was named to the Telemedicine Hall of Fame in Telehealth Magazine in August 1999, one of only four programs to receive this honor. In addition, faculty and staff members of Texas Tech University Health Sciences Center are frequently asked to make presentations, nationally and internationally, regarding the telemedicine program and its success.

Community Telemedicine

http://www.ttuhsc.edu/telemedicine/community.aspx

TTUHSC and the Institute are leaders in responses to providing health care services to rural and frontier communities. TTUHSC's published mission is in part to "improve the health of people by providing educational opportunities to students and health care professionals, advancing knowledge through scholarship and research, and providing patient care and service" with clearly defined goals and strategies to accomplish the mission. Since its inception, TTUHSC has focused on rural health issues and has taken leading roles in the development of innovative programs for rural clinical training, in the articulation of community health policy, and in the promotion of improved health for residents of medically underserved communities.

TTUHSC Service Region

The West Texas service region is very unique – it's often described as "8 hours long by 5 hours wide" to indicate the vast territory. The region is comprised of 105 counties of which 98 are considered rural and over 50% are considered frontier. It is 49% of the Texas land mass and equates to the size of France. Only three states in the United States are larger than the service region. Population density is just under 20 people/square miles (19.8) compared to an estimated East Texas density of 155 people/square mile.

Of the 105 counties in West Texas,

- 22 counties have no physician
- 10 do not have a physician, physician | *continued on page 32*

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CONVENIENT DRIVE-UP & DELIVERY

assistant or nurse practitioner

- 21 do not have a community or clinic-based pharmacy
- 32 do not have a hospital
- 75% of the region is more than 90 miles from a comprehensive trauma hospital (the only Burn Center for the region is located in Lubbock, Texas and it is also the only Burn Center between Dallas, Texas and Phoenix, Arizona

TTUHSC Meeting the Challenge

To meet those challenges, the Institute develops and coordinates a wide range of rural health and community projects, which include assisting with the creation and implementation of sound rural health policies; focusing on health education and health workforce development; leveraging technology to shrink the distance between rural communities and large centers of health care services; sponsoring and conducting applied research and policy analysis; and improving the health of communities through innovative research, health education and health care service delivery programs.

Of particular note is that programs are available today that can significantly reduce the need for travel in many cases. We know that telemedicine is such a program through which the residents of many rural communities can increase access to medical specialty care while reducing the demands on individuals and families.

TTUHSC currently works with twelve communities throughout the service region. These twelve communities include two School Based Health Care Clinics, one FQHC and eight Rural Health Clinics. In addition, three of the TTUHSC regional campuses are equipped with telemedicine capability, allowing patients in El Paso, Amarillo and Odessa to utilize the technology as well.

Frequently Asked Questions http:// www.ttuhsc.edu/telemedicine/Telemed_ FAQ.aspx

TMB Telemedicine Board Rules for Telemedicine

The Texas Medical Board adopted amendments and additions to its telemedicine rules at its August 2010 meeting. The changes became effective October 17, 2010. To view these changes, go to https://www.tmb.state. tx.us/idl/45407D14-79CD-93CE-1A70-192E86E93374.

The following is a list of frequently asked questions.

1. What types of telemedicine models are allowed under the rules?

In general, two models for telemedicine have been identified, each for a different situation: either from an established medical site or from the patient's home.

A. Established Medical Site:

In the first model, a patient receives care through telemedicine at an "established medical site," such as a hospital or clinic or other site that has the required medical professionals and equipment. There are no specific limitations on the types of care that a patient may receive at an established site, and both initial visits and follow up visits may be done at this type of site.

At these sites, patient site presenters are available to assist in the interface between the patient and the physician (or PA or APN), who is located at a distant site, and sufficient diagnostic equipment must be available. One exception is that if the health care provided is related to mental health, a patient site presenter is not required unless patients may be a danger to themselves or others.

B. At Home:

In the second model, patients can access health care via telemedicine (video conferencing with a live feed) from their homes. Basic requirement for an in home evaluation are that the patient must be a pre-existing patient previously seen in person either by the physician or PA with whom the patient is teleconferencing or by another physician who has referred the patient to the physician providing telemedicine care and that the referral is documented in the medical record. Once that initial diagnosis is made in person or at an established site, the patient may receive follow-up care for that pre-existing condition via telemedicine in their homes.

In addition to the above, distant site providers can treat pre-existing patients in their homes for new symptoms that appear unrelated to the pre-existing condition based on the following criteria and clarifications:

- Distant site providers may treat patients at home for up to 72 hours as long as the patient is advised to see a physician in a face-to-face visit within 72 hours if the symptoms do not resolve.
- Distant site providers may not provide continuing telemedicine medical services for new symptoms to a patient who is not seen within 72 hours.
- The rule intends that, for a patient presenting minor symptoms, a provider may prescribe a course of treatment that runs longer than 72 hours,



such as a 10 day course of antibiotics or a 30 day course of medication to relieve allergy symptoms. It is intended that this option be used judiciously and within the standard of care. It is not intended that ongoing prescriptions for new diagnoses made from the patient's home would be issued.

A physician may not:

- Make an initial diagnosis of a new patient via telemedicine at a patient's home (or other non-established medical site) unless the physician has conducted a prior face-to-face initial consultation or the patient has been referred to the distant site provider by a physician who evaluated the patient in-person.
- Provide ongoing medical treatment to a preexisting patient with a new chronic condition unless a physician conducts a timely in-person evaluation after the diagnosis of the new condition.
- Finally, the patient being seen via teleconferencing from his or her home must be seen by a treating physician for an in-person evaluation at least once a year and no chronic pain treatment with scheduled drugs may occur through this treatment model.

2. What are some examples of facilities that meet the definition of an "established medical site?"

In addition to a hospital or clinic, a site could be a facility such as a nurse's station in a public or private school, a volunteer fire department, an EMS station, a residential or institutional care facility, or even a pharmacy. The key criteria are the availability and presence of:

- 1. A patient site presenter who is a licensed or certified health care professional, such as a nurse, emergency medical technician (EMT), or pharmacist; and
- 2. Sufficient technology and medical equipment to allow for an adequate physical evaluation.

The rule also intends that an established site be sufficient in size to accommodate patient privacy and to facilitate the presentation of the patient to the distant site provider. Any location that meets these requirements will be considered an established site.

3. Is there anything that cannot be an established site?

Generally, anyplace that does not meet the requirements in #2 is not considered an established site. Additionally, a private home is not considered an established medical site. Hospice facilities and nursing homes are not considered to be private homes.

4. Do the rules accommodate the use of Skype or similar forms of web videoconferencing as a means for a distant site provider to provide

telemedicine medical care in a patient's home?

Yes, this would be allowed as long as all the other requirements for home treatment (Sec. 174.7) are met.

5. What is the definition of a "face-to-face visit?"

The definition of a "face-to-face visit" is an evaluation performed on a patient where the provider and patient are both at the same physical location or where the patient is at an established medical site. For example:

- Provider (physician, PA, or APN) performs in-person evaluation of patient while both are physically present in the same location.
- Provider (physician, PA, or APN) performs an evaluation of patient where the patient is located at an established medical site but the provider is located elsewhere with the ability to visually interface with the patient.

Final Rule Streamlines Telemedicine Credentialing & Privileging Process

The Centers for Medicare & Medicaid Services (CMS) issued a final rule on May 5, 2011, offering hospitals and critical access hospitals (CAHs) the option to streamline the credentialing and privileging process for physicians and non-physician practitioners providing telemedicine services. The revised guideline will allow small hospitals and CAHs to expand access to specialty patient care services provided by remote practitioners and receive those services from another Medicare-participating hospital or other distant-site telemedicine entity in a timely manner.

Telemedicine Defined

Telemedicine is defined in the final rule as "provision of clinical services to patients by practitioners from a distance via electronic communications. The distant-site telemedicine physician or practitioner provides clinical services to the hospital or CAH patient either simultaneously, as is often the case with teleICU services, or non-simultaneously, as may be the case with many teleradiology services."

"Simultaneous" telemedicine services are performed in real time, similar to medical services provided during a faceto-face encounter. "Non-simultaneous" telemedicine services are requested by the patient's attending physician or practitioner and may involve interpretation of diagnostic testing. The interpreting telemedicine practitioner does not assess the patient in real time, but transmits the interpretation results to the attending physician or practitioner for patient diagnosis or management.

A "distant-site telemedicine entity" is defined in the final rule as "one that (1) provides telemedicine services; (2) is not a Medicare-participating hospital (therefore, a non-Medicare-participating hospital that provides telemedicine services would be considered a distant-site telemedicine entity also); and (3) provides contracted services in a manner than enables a hospital or CAH using its services to meet all applicable conditions of participation, particularly those requirements related to the credentialing and privileging of practitioners providing telemedicine services to the patients of a hospital or CAH."

Current Guidelines

Under the current condition of participation (CoP), all hospitals must credential and assess privilege for all physicians or non-physician practitioners who provide services to their patients, including telemedicine practitioners. The hospital's governing body is responsible for accepting practitioners to its medical staff and granting privileges after thorough examination, verification of credentials and evaluation of specific criteria. CAHs that are members of a rural health network must follow a similar process, but also must maintain an agreement with another hospital that is a member of the same health network, a Medicare Quality Improvement Organization (QIO) or another qualified entity. The CAH credentialing and privileging process also requires assessment and approval of its medical staff by this outside entity. CMS recognized that the process was burdensome and that small hospitals and CAHs might not have the resources or clinical expertise within their medical staff to evaluate and assign privileges to specialists providing telemedicine services.

Revised Guidelines

Effective July 2, 2011, the final rule revised sections of the CoP for hospitals and CAHs to allow the governing body (or responsible individual for CAHs) to accept the "credentialing and privileging decisions made by the distant-site telemedicine entity" for individual physicians or non-physician practitioners asked to provide telemedicine services. In addition, the governing body must obtain a written agreement specifying the distant-site entity as a "contractor of services" and stating the distant-site entity ensures all furnished services will comply with applicable CoP criteria for hospitals or CAHs.

There is an exception to the requirement for a CAH to have an agreement with one or more Medicare-participating providers or suppliers. The CoP now allows for an agreement with a distant-site, non-Medicare-participating entity providing telemedicine services. Specifically, the final rule says an agreement can exist "between a CAH and a distant-site telemedicine entity for the entity's distant-site physicians and practitioners to provide telemedicine services to the CAH's patients."

Conclusion

The final rule for credentialing and privileging of telemedicine services is a significant advancement for specialty medical care providers, particularly rural hospitals and CAHs. Facilities considering implementing this streamlined process may experience initial cost in developing agreements with the distant-site telemedicine entity. Essentially, the benefits of expanding access to specialty services should outweigh any administrative cost.

CORRECTIONAL TELEMEDICINE

http://www.ttuhsc.edu/telemedicine/tdcj.aspx

Texas Tech University Health Sciences Center is responsible for providing medical care in the western portion of Texas to inmates in the Texas Department of Criminal Justice facilities.

In 1994, TTUHSC began delivering health services to inmates through telemedicine. Today, TTUHSC conducts more than 4,500 prison telemedicine consultations a year for the 32,000 inmates that are housed in the 23 prison units for which TTUHSC is contracted to provide medical care. Before the implementation of telemedicine, most of the inmates needing medical care were taken out of the prison to visit a specialist, hospital, or other facility. Each trip cost taxpayers between \$200 and \$1,000, depending on the location. With telemedicine, however, many of these trips have been eliminated, thus saving taxpayers thousands of dollars annually.

CORRECTIONAL TELEMEDICINE USES:

- Reduces inmate transfers out of prison clinics for specialty care;
- Improves public safety and reduces escape risk by treating more inmates in the secure prison setting;
- Discourages false medical claims by inmates, which has resulted in more efficient utilization of the prison medical staff's time; and
- Provides inmates with a high standardized level of medical care, thus reducing the risk of litigation.

Besides specialty care, TTUHSC provides extensive psychiatry and psychology services to inmates via telemedicine.

PRIOR TELEMEDICINE PROJECTS

http://www.ttuhsc.edu/telemedicine/prior_telemedicine.aspx

Telepharmacy Project

The first telepharmacy project in Texas was launched by Texas Tech in September 2002, linking a private clinic in remote Turkey, Texas to the Texas Tech School of Pharmacy in Lubbock. Using a telemedicine system, university pharmacists in Lubbock, 75 miles from Turkey, could counsel patients and visually supervise the dispensing of prescriptions. Based upon a formulary of the most commonly prescribed drugs by the clinic's physician, drugs were prepackaged and sent to the Turkey clinic in advance. When a prescription was written for one of the drugs, the videoconference link was then established to create the long-distance pharmacy. The project saved residents of the Texas panhandle community hundreds of miles and hours of driving time to the nearest retail pharmacies. In addition, it allowed for drug treatment to begin immediately. However, and funding issues and the high cost of maintaining a formulary in a small community, the project ended in 2009. Many lessons were learned that will allow future Telepharmacy projects to be more successful.

Assisted Living Projects

The use of telemedicine in assisted living and nursing facilities is a growing project area for many telemedicine programs across the nation, especially in view of the expected growth of such facilities as the "baby boomer" generation ages. With the use of telemedicine equipment, physicians and health care providers can electronically brought to the facility, often eliminating the need to transport the patient off site from the nursing home for care. This lessens the risk of a fall or injury to the patient during transportation, and, avoids the expense of the transport.

The first assisted living project for Texas Tech was the Carillon Telemedicine Pilot Project in 2001. The Family Medicine Department of TTUHSC was linked to the Carillon assisted living facility in Lubbock. During the study period, physicians at Tech were successfully able to deliver primary care services with very high patient satisfaction. The project demonstrated that telemedicine is a viable tool for use in nursing homes. Telemedicine knowledge and expertise gained from the Carillon project was then applied in the Garrison Education and Care Center project, a teaching nursing home which opened in the summer of 2002 on the campus of the Texas Tech University Health Sciences Center in Lubbock. At the Garrison Center, Texas Tech continues to research telemedicine applications with aging and Alzheimer's patients.

Texas Tech is looking to help rural nursing homes develop telemedicine programs. Many rural nursing home across West Texas are located in communities without a hospital or physician. And, in many instances, the nursing home medical director is also miles away. Texas Tech physicians believe that telemedicine can be used to enhance the level of on-site care in such nursing homes and to virtually eliminate unnecessary ambulance transportation. The technology can also be used to provide much-needed training for rural home personnel.

Telemedicine efforts with assisted living facilities broaden the capabilities of Tech to assist with delivering rural health care and teaching the health care providers of the future. Ultimately, telemedicine could be a part of everyday life in nursing and assisted living centers across West Texas.

Cliff<mark>Notes</mark>

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Telemedicine – The Delivery of Medical Care of the Future

by Melanie Teague, Technical Writer, Texas Tech University Health Sciences Center – Lubbock, Billy Philips, Jr., Becky Jones, Sharon Rose

he advancement and evolution of technology is changing the way healthcare is delivered. Electronic health record systems, health information exchanges, and telemedicine are not new technologies but their wide-scale implementation is new. Telehealth is the broadest term for the range of electronic information and telecommunication technologies to support distant site clinical care, patient monitoring, health education, and public and population health. All these technologies bring new tools that allow conventional care to be delivered in remote, rural, and frontier areas to further the triple aims of greater access, improved outcomes, and lower costs . Healthcare personnel shortages, decreasing third-party reimbursement, along with the burden of chronic care management, necessitate the quest for alternative care delivery systems. Telemedicine services continue to expand as new avenues are found for that technology.

Could health care be improved if it were available anywhere, at any time, to anyone? Would it be better if costs were reduced and outcomes improved? What transformation would happen if practitioners were able to consult with experts and each other at any time from any location? What if there was the ability to monitor and coordinate care 24-hours-a-day, 365 days a year, to chronically ill and homebound patients without being physically present? What if care, especially preventive care, could be integrated into work, home, school, or mobile environments? All of these questions have an affirmative answer, and that is telemedicine.

The notions of telemedicine date as far back as the 1920s and have a portion of their roots in Lubbock, Texas, when Dr. M.C. Overton, applying what he had learned as a lineman for Bell Atlantic Phone Company during his college days, began practice after completing medical school. He used a headset tap to connect to the lines around the rural region to phone back to his office as he was making house calls. Then, an issue of Radio News sparked curiosity and dreaming about how radios might transform medical care. This provoked NASA to develop the first telemedicine cart at the Johnson Space Flight Center in Houston with the help of physicians at University of Texas Medical Branch at Galveston depicted in this photograph. The first trial use came in 1968 when Dr. Kenneth T. Bird established the Boston Logan Airport Medical Station to link to the Massachusetts General Hospital for specialty consultations, saving the long and often harrowing trip through the old Logan tunnel that connected the airport with downtown locations.

Texas Tech University Health Sciences Center (TTUHSC) pioneered services to patients in the 108 westernmost counties of Texas, connecting these rural people with specialists in metropolitan areas and thus reducing a wide array of health disparities. While many of the same issues in health exist throughout the country, there are unique challenges in our area. In West Texas, ninety percent of counties are designated as rural and half of those are considered frontier, with fewer than ten people per square mile. Significant healthcare worker shortages are seen throughout the area. Twelve counties have no physician, nurse practitioner or physician assistant. Of the 108 counties of West Texas, 101 are designated as mental healthcare provider shortage areas. Thirty-two of these counties have no hospital. Clearly, there are gaps with regard to access, utilization, and health care outcomes, a growing elderly and minority population. Telemedicine services are bridging some of the gaps and could be utilized to greater capacity throughout the area by decreasing the isolation of rural providers, significantly reducing the shortage of services and increasing quality of services to patients.

In any discussion about telemedicine or telehealth, the terms need to be defined. The American Telemedicine Association considers telemedicine and telehealth as interchangeable terms which have a wide definition of remote healthcare. However, there are subtle differences between the terms. Telehealth is the broadest of the terms and is defined as "the use of electronic information and telecommunications technologies to support long-distance clinical health care, patient and professional health-related education, public health and health administration." In layman's terms, this means that not only can you have a video visit with a health care provider, but that monitoring of vital signs, electrocardiogram, fluctuations of medical conditions, and education can be provided through the use of telehealth technologies. Telemedicine, on the other hand, is defined specifically as "the use of medical information exchanged from one site to another via electronic communications to improve a patient's clinical health status."

There are many different telecommunication technologies and applications which can be utilized. Patient consultations via video conferencing, transmission of still images, e-health including patient portals, remote monitoring of vital signs, continuing medical education, consumerfocused wireless applications and nursing call centers, among other applications, are all considered part of telemedicine and telehealth.

Challenges and Barriers

Challenges to greater implementation of telemedicine services, especially in rural areas, include reimbursement, legal regulations, the cost of the technology, and most of all, getting practitioners accustomed to this new mode of delivery. In most cases the provider of care via telemedicine can bill for and get reimbursed for a clinic visit, but there are significant limitations on reimbursement for the originating site, which is the site where the patient is during the visit. Medicare strictly dictates the location of the patient for type of facility and must be in a Health Professional Shortage area or county outside any Metropolitan Statistical Area. Medicaid rates vary by state, and private payer policy is not consistent. There is no direct incentive for the rural primary care provider to dedicate resources of clinic space and staff support to facilitate telemedicine visits to follow through with specialist referrals. The Centers for Medicare and Medicaid Services recently expanded covered telemedicine services to include annual wellness visits and psychotherapy.

Related to reimbursement and legal regulations are physician licensing and credentialing that restrict use of telemedicine within state boundaries and that focus

on the presenter who must be a licensed health care provider such as a nurse or EMT. Currently, the physician must be licensed in the state where the patient is located, and the first encounter usually must be a traditional visit. If a small rural or Critical Access Hospital sought to have access to specialists to consult with inpatients, the specialist would need to go through the hospital's credentialing process. Questions arise regarding the quality of the services; namely, ensuring the standards of care and treatment are equivalent to a physical encounter. Additionally, concerns regarding the Health Insurance Portability and Accountability Act (HIPAA) have been raised with regard to the privacy and security of the technology used. Furthermore, another concern revolves around potential up- front costs required to ensure the technology being utilized is appropriate for the type of care offered by a physician.

Opportunities

Despite some current obstacles, there are many successful applications of telemedicine. For example, through the F. Marie Hall Institute for Rural and Community Health's Telemedicine Department at TTUHSC, telemedicine is being utilized for many different specialty areas such as burn clinics, psychiatry consults, and infectious disease clinics, to name a few. Additionally, TTUHSC physicians currently use telemedicine to provide care for correctional facilities, HIV clinics, and schools in the West Texas region. Through the provision of these telemedicine services, the need to travel large distances and re-arrange work schedules for the provision of healthcare decreases.

One of the earliest and most successful telemedicine clinics began in the 1990's in Hart, Texas, a small community about 70 miles south of Amarillo. The community, with no resident healthcare provider except for the local Hart Independent School District's (ISD) nurse, is predominately a low-income and Hispanic population. For many years, Retta Knox, R.N., the school nurse, took care of the minor healthcare problems faced by those in the community, but Ms. Knox was soon frustrated by the lack of medical care in the community. Beyond the care provided by Ms. Knox, it was a 25 mile drive to the closest physician's office. Not only was this a monetary burden to those in the community, but parents had to take off work in order for their children to get the medical attention they needed. Starting with a state health department grant and collaboration with TTUHSC, the Hart ISD was able to start a clinic in which a TTUHSC pediatrician and residents traveled to Hart once a week to treat children at the school. In 1998, a weekly telemedicine clinic was added to the onsite clinic to double physician coverage. Today, many years later, Hart ISD provides healthcare for the students, younger siblings, and all Medicaid-eligible children via the TTUHSC telemedicine service. With parent permission, children can come into the school clinic and make an appointment with a healthcare provider. Appointments may also be made by teachers and parents, but the services require parental notification and consent. Since the inception of this clinic, the school district has seen improvement in attendance rates as well as basic skills.

There are other benefits of telemedicine other than improved access. While improved access does allow increased services to individuals in provider shortage areas, it also improves quality of care, cost efficiencies, and patient demand. Studies show that the quality of healthcare services delivered via telemedicine is comparable to traditional in-person care. Many patients and providers associate better patient satisfaction and improved outcomes with the use of telemedicine. Overall, patients, especially in smaller communities, are interested in telemedicine. Not only does it decrease travel time, but telemedicine also alleviate stressors which go along with trying to set schedules around family and work. Studies have shown that telemedicine reduces cost and increases efficiency with better management of chronic diseases and fewer hospital admissions. The use of telemedicine also keeps medical funds within the patient's community if laboratory, radiology, and other health services are available.

In a time of large transformation of healthcare and healthcare delivery aimed at improving patient experience, improving quality, and decreasing costs, technology in healthcare will continue to be leveraged. The American Telehealth Association, the federally-funded Telehealth Resource Centers, and others are educating and advocating for legislation and regulatory support to decrease barriers to the use of Telemedicine, opening up many more possibilities in the future. When it comes to medicine, it seems that the future is always now. When it comes to telemedicine, it seems that the future looks even brighter.

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Telepsychiatry in West Texas: Advancing Mental Health with Technology

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Abstract

Telemedicine is a new, growing field with origins in psychiatry, dating back to 1959. Presently, TTUHSC is providing telemedicine and telepsychiatry services to inmates in the western portion of the state of Texas. In addition, psychiatrists at TTUHSC SOM at Amarillo have employed telepsychiatry to provide patient care to rural communities in the Texas Panhandle. Telepsychiatry has been shown to provide effective patient care to patients and communities that cannot be easily reached otherwise, such as prison inmates, rural communities, nursing homes and schoolchildren. It has also been shown to be cost effective with patient satisfaction that is comparable to face-to-face encounters. Undoubtedly, telepsychiatry allows medicine to reach patients without constraints.

Introduction

Mental health conditions are quite widespread; however, there is currently a shortage of psychiatrists, making it difficult for many patients suffering from mental illnesses to be seen and treated. Thus, it is imperative to find solutions to provide these patients with the psychiatric care that they need.

Telepsychiatry is the use of videoconferencing technology to provide greater access and better care to patients in need of psychiatric evaluation, diagnosis and treatment. Rather than physical examination, the practice of psychiatry relies mostly on history taking, effective communication, and observation; thus, it is logical that teleconference would be a great means to provide psychiatric care. In fact, the use of telemedicine dates back to 1959 at the Nebraska Psychiatric Institute. With advances in technology, telemedicine has only improved since and has allowed psychiatrists to reach more patients and to save costs, providing an efficient alternative to conventional medicine (9).

Telepsychiatry has been shown to be effective in many different contexts, reaching individuals who are otherwise restricted from receiving easily accessible in-person care. Programs have been implemented in states throughout the nation; in fact, the University of Texas Medical Branch (UTMB) and Texas Tech University Health Sciences Center (TTUHSC) have successfully been providing telemedicine and telepsychiatric care to the majority of Texas' prison inmates since the 1990s (9).

Where Is It Used?

Telepsychiatry has been used to provide mental health care in many different settings, including correctional facilities, rural communities, schools, and nursing homes.

Prisons

It has been reported that greater than half of the nation's inmates suffer from a diagnosable mental illness, thereby illustrating the great need for mental health care in this population. Because of safety concerns and increased costs associated with the transport of inmates, adequate face-to-face treatment of inmates has been difficult. Inadequate mental health care only leads to more problems associated with untreated mental illness, including violent behaviors towards other inmates in prisons. Telepsychiatry helps to address these problems by increasing inmates' access to psychiatric care, maintaining continuity of care, and reducing costs associated with inmate transportation and provider travel. Many states have successfully implemented telepsychiatry programs in prisons (2). In Texas, TTUHSC-Lubbock has provided psychiatry services through its telemedicine program to inmates throughout west Texas since 1994 (3). TTUHSC in Amarillo has also been providing telepsychiatry services through the TPC to local county jails in the Texas Panhandle for the past decade with much success (12).

Rural Communities in West Texas: Texas Panhandle Centers for Behavioral & Developmental Health (TPC)

The region covered by the TPC is over 21,000 square miles and is primarily a rural area. For many patients in this region, in-person access to a psychiatrist would be quite challenging as they would need to embark on lengthy trips in order to reach a psychiatrist in Amarillo. With state-of-the-art videoconferencing, patients in rural communities throughout the Panhandle are able to connect with psychiatrists in Amarillo through the TPC (12). TTUHSC SOM faculty, including Dr. Jave Rush and Dr. Michael Jenkins, see patients via teleconference on specific days of each week. Medical students rotating through psychiatry have the opportunity to experience the growing field of telepsychiatry firsthand, interviewing and developing treatment plans for patients in various surrounding rural towns, such as Borger and Pampa.

Schools

At least 1 out of 5 children suffer from a mental illness; unfortunately, as there is currently a shortage of child psychiatrists, many children are left untreated. This can result in negative academic and behavioral consequences at school and home. Telepsychiatry services provided at school have proved to be a great solution in increasing this population's access to mental health care, improving patient availability and maintaining continuity of care through compliance (6). One study by Cunningham et al. showed that providers reported overall positive experiences and high student comfort levels with telepsychiatric consultation in schools; some students even appeared more comfortable in discussing issues over teleconference (7).

Nursing homes

Nursing home residents are yet another underserved population, especially in rural areas where there is a great shortage of psychiatrists. The majority of residents in need of psychiatric care suffer from depression or dementia. One study of rural nursing home residents reported that telespsychiatry decreased resident transportation costs, physician visit costs, as well as physician travel time such that psychiatrists could then see more patients. Nursing home residents, family members, and staff also conveyed satisfaction with the telemedicine service. In addition, as of 2009, telepsychiatry in nursing homes is eligible for Medicare reimbursement, which can only help to further increase the use of telepsychiatry in this population and allow for greater access to mental health care (8).

How Is It Used?

Technology forms the basis of telepsychiatry. Since psychiatric care heavily depends on closely evaluating mood, behavior, and other non-verbal cues, use of high quality technology is imperative. Specifically, telepsychiatry involves the use of a videoconferencing system that coordinates the use of cameras, speakers, microphones, and monitors to capture and deliver audio and visual images to both ends (9). For hearing-impaired patients, amplified headphones have also been used to maximize communication (8). The bandwith, or the amount of data that is transmitted, should be high enough to transmit high quality information through either an ISDN or IP network. Though expensive, ISDN networks are point-to-point and secure. IP (internet) networks are widely used yet less secure; thus, measures such as use of private networks and encryption must be taken to ensure security (9).

There is usually another person present in the room with the patient to assist with history taking and recording treatment plans, as well as any technical issues that may arise, such as equipment malfunction (8).

Advantages

Quality of care

One concern with telemedicine may be that the quality of care may not be as good as that found in a conventional, face-toface interaction. However, research has thus far shown that telemedicine is indeed as effective in providing quality care to patients. One randomized controlled study compared the diagnosis and treatment plans in patients who were seen by different psychiatrists in both a teleconference and face-to-face setting; it was found that the diagnosis and treatment recommendations made with telepsychiatry were the same as face-to-face in 96% of the cases (5). In another randomized control study by O'Reilly et al., patients referred to the underserviced psychiatric department of a regional hospital in Canada were randomly assigned to consultation and follow up in person or by teleconference. Both groups had similar baseline characteristics as well as a similar distribution of psychiatric diagnoses. It was found that both groups showed equivalent clinical outcomes, with about 20% of each group moving from a dysfunctional to a functional range (10).

Access to care

Telepsychiatry has undoubtedly increased access to care in populations that are otherwise underserved. As discussed above, many types of patient populations, from prison inmates to school-age children and residents of rural communities and nursing homes, are able to readily receive psychiatric services provided through telepsychiatry. Such services may otherwise not have been accessible due to the individuals' circumstances.

Cost

Though telepsychiatry requires initial startup costs as well as ongoing costs to cover equipment maintenance, research has illustrated decreased costs overall. The study by O'Reilly et al. showed that telepsychiatry was indeed cost-effective, as it was at least 10% less costly than face-toface psychiatric services. This was because face-to-face interactions incurred greater costs for travel and accommodation, as well as increased payments to psychiatrists to compensate for this travel time. These costs were greater than telephone connection and equipment costs that telepsychiatry incurred (10).

Patient Satisfaction

Numerous studies have illustrated overall patient satisfaction in receiving psychiatric care via teleconference.

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According to a review of the literature of telepsychiatry by García-Lizana and Muñoz-Mayorga, patient satisfaction between telepsychiatry and traditional face-to-face delivery of care was found to be comparable (11).

Disadvantages

The main disadvantages to telemedicine reported thus far have been technical issues. For example, one study found that telepsychiatrists occasionally experienced issues such as disconnections, audio problems, and poor resolution during their consultations; however, in most cases, these issues were quickly resolved (7).

Furthermore, telepsychiatry is a relatively new development, which may hinder acceptance and positive attitudes from patients and providers. Patients in cultures which place great value on personal relationships may feel wary towards using telecommunication (4). In addition, users may also lack confidence with using the technology involved in this service. Telemedicine programs should thus reach out to communities and promote telepsychiatric concepts and the positive impact it has on patients, as well as facilitate user training (1).

Future Applications

Other types of mental health services, such as psychotherapy, have not been extensively studied (4). It would be interesting to see whether using these therapies in a teleconference setup would be as effective as a conventional face-to-face interaction.

In addition, research thus far has mentioned potential risks of telepsychiatry, such as patient privacy infringement through unsafe computer networks and breeches in confidentiality, as others may be viewing the interaction unbeknownst to the patient (4). However, these risks have not been extensively studied. Thus, further studies on privacy and legal concerns should be carried out in order to gain a better approximation of how often these issues arise and what can be done to limit them.

Conclusion

Recent trends have shown that the use of telepsychiatry has allowed for adequate quality of care, increased access to care, and decreased costs. Patients are being effectively evaluated and treated, and are satisfied with the use of telepsychiatry for their mental health care. Telemedicine is now reaching patients who could not be reached before and, in West Texas, telepsychiatry programs have shown that mental health can clearly be advanced with technology.

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TELEMEDICINE

PATIENT INFORMATION

What is Telemedicine?

Telemedicine is the administration of medical care by the physician (or physician extender) to a patient who is not in the office. The remote administration of health care requires communication that is provided via electronic media e.g. computer, iPad, and iPhone. Simple examples of telemedicine take place when a patient obtains an advice from his doctor via a text message or email message. The ideal method includes visual communication to allow for a complete evaluation of the patient. Computer programs, without visual capability, are utilized by physicians to exchange consultation advice with each other.

Why Telemedicine?

Although face-to-face visit with a physician (or a physician extender) is the ideal manner for the provision of medical care, since it allows for actual physical examination among other important communication nuances, the provision of health care via electronic media without having to go to the doctors' office can make life much easier for the patient without the need for transportation to, and wait time in, the doctor's office.

What is the source of the name?

In the Webster dictionary, "Tele" means distant and Telehealth or telemedicine terms have been coined to describe the actual administration of medical or health care from a distance. This is different than Electronic Health Record (EHR) that is used now as computer-based patient records in the doctor's office or in the hospital. EHR may or may not be able to perform a telemedicine function.

How to diagnose disease via telemedicine?

The physician talks with the patient and visually examines the patient from a distance through the monitor. After he reviews the patient's lab results, he provides the diagnosis and the recommendations. The physician may recommend a physical visit for better examination if needed. In many of the cases, the physician already knows the patient from a prior brick-and-mortar office visit. In some situations, the patient is accompanied by a nurse to perform the exam under guidance of the remote physician.

How is Telemedicine administered?

Telemedicine is administered via hardware (computers, monitors, and network) and software (computer program). The software stores the patients' information and acts like the patients' chart (EHR). The patient can be at home or possibly at a satellite clinic in a rural area with internet connection. Newly emerging telemedicine companies now have physicians who only provide telemedicine care without actual doctor's office.

How far can the physician be?

The distance does not matter but the physician cannot treat a patient outside his state of licensure. Accordingly, a patient who lives in Texas cannot get telemedicine care from a physician who is not licensed in Texas. The physician usually has malpractice insurance in the state of his licensure.

What is the position of the Texas Medical Board? The Texas Medical Board approves of telemedicine care but currently stipulates that the first visit should be either in the doctor's office or where the patient can be accompanied by a medically trained person to provide accurate vital signs and examination assistance to the remote physician [1].

Reported by Tarek Naguib, MD, MBA, FACP

1. Texas Medical Association: Daily Headlines. April 13, 2015



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Minority Scholarship Program Physicians Caring for Texans

by Tarek Naguib, M.D., M.B.A., F.A.C.P.

Treating Ebola with Survivors' Plasma Science (5/15) – Ongoing trials in Guinea are under way to examine whether infusing plasma obtained from Ebola survivors' can treat Ebola infections. The plasma can be stored frozen for as long as a year.

An Ebola Whole-virus Vaccine Science (4/24) – Investigators have arrived at the formulation of an Ebola whole-virus vaccine that protects non-human primates against lethal infection with Ebola. The replication-defective virus was also inactivated for added safety.

A Better HPV Vaccine JAMA (4/28) – An investigational 9-valent vaccine against human papillomavirus (9vHPV) had an efficacy of nearly 97% against cervical, vulvar, and vaginal disease associated with HPV. The new vaccine has the potential to prevent 90% of cervical cancers compared with 70% for the old one.

Anthrax New Treatment JAMA (5/5) – A new anthrax-specific immunoglobulin was approved by the FDA for inhalational anthrax. The safety was tested on 74 human health volunteers with minor adverse effects. Meanwhile, the efficacy was tested on rabbits and monkeys, but not humans, for ethical reasons. Of note, the vaccine has been part of the US Strategic National Stockpile since 2011.

Hepatitis E Vaccine Lasts 4.5 Years JAMA (4/28) – A follow up study to a trial for hepatitis E vaccine efficacy revealed the protective antibodies from the vaccine to last at least 4.5 years in the blood of the participants.

Vaccination & Personal Belief! CID (4/15) - Among 110 California measles patients' outbreak, 47 had unknown or undocumented vaccination status and 49 were unvaccinated. Out of the unvaccinated group, 28 were intentionally not vaccinated due to personal beliefs!

Why do We Love Dogs? Science (4/17) – Mutual gazing between a human and a dog was shown to increase the secretion of oxytocin hormone in both. The hormone, known as the "love hormone", may explain how dogs became a part of human history and

how emotions develop between a dog and his owner.

Meditation Promotes Better Sleep JAMA (4/28) – A recent trial showed that mindfulness meditation improved sleep quality for older adults who suffer from moderate sleep disturbance compared with a program focused on changing poor sleep habits and establishing a bedtime routine.

Peanuts Anyone? JAMA (4/28) – A trial published in the New England Medical Journal showed high-risk children who consumed peanut products from infancy until they were 5 years old to be significantly less likely to develop a peanut allergy than those who avoided peanuts.

CT Screening for Smokers Approved JAMA (3/24) – Medicare will cover lung cancer screening once per year with low-dose computed tomography (CT) for beneficiaries aged 55-77 years who have smoked in the last 15 years with at least 30 pack-years history.

Raising the Age for Cigarettes? JAMA (4/28) – The Institute of Medicine released a result of a simulation model indicating that if the minimum age to allow purchase of cigarettes is raised to 21 years, there would be a 4.2 million fewer years of life lost between 2000 and 2019.

Reduce Alcohol for Chantix JAMA (4/21) – FDA warned that Chantix, which is used for smoking cessation, can reduce tolerance to alcohol. Accordingly, Chantix users should reduce alcohol use till they know how the drug affects their tolerance to alcohol.

Syphilis Eye Infection Amarillo Bi-City County Health Dept. Advisory (4/16) - An advisory revealed the diagnosis of 24 cases of ocular syphilis from California and Washington with several other states reporting potential cases, 2 of which occurred in Amarillo. Case definition includes consistent eye disease and any stage syphilis. Suspect cases should be reported to the health department and should be tested for HIV. The management is that of neurosyphilis including lumbar puncture and intravenous antibiotics. Seven patients with positive RPR were treated for syphilis in Amarillo in the first quarter of 2015.

Folic Acid prevents Stroke JAMA (4/7) – A Chinese study revealed a clear benefit for folic acid supplements in preventing first stroke in hypertensive persons with low baseline folic acid levels.

Testosterone Increases Stroke Risk JAMA (3/27) – FDA told manufacturers of testosterone products to add label for possible increased risk of heart attack and stroke. The agency warns men not to use testosterone products to treat low testosterone levels due to aging, even if symptomatic!

A New Device for Atrial Fibrillation JAMA (4/21) – FDA approved a device that closes the left atrial appendage, the place in which a blood clot forms in atrial fibrillation. Compared to warfarin use, the device that is inferior in reducing ischemic stroke is actually superior in reducing cardiovascular death and both disabling and hemorrhagic strokes. The device is called the WATCHMAN!

Surgery not needed? Ann Intern Med (4/7) – A study of 169 participants with low back pain due to lumbar stenosis who were surgical candidates, above age 50, revealed the outcome of surgical decompression to be similar to that of physical therapy (PT). However, due to lack of control groups, it is not possible to tell whether surgery or PT helped the patients in this trial.



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A fatal pneumonia in a lymphoma patient

by Mansoor Mehmood, MD1, Ruba A. Halloush, MD2, Faisal A. Khasawneh, MD3

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Case presentation:

A 58 year-old female with past medical history significant for Non-Hodgkin lymphoma on chemotherapy (cyclophosphamide, doxorubicin, vincristine and prednisone) presented with 10-day history of progressive shortness of breath and dry cough. The patient had already failed outpatient antibiotic therapy with levofloxacin and her symptoms progressed. She was admitted to the intensive care unit with multi-lobar pneumonia and acute hypoxemic respiratory failure and was started on broad-spectrum antibiotics (linezolid, pipracillin/tazobactam and tobramycin). Her condition worsened and she required intubation and mechanical ventilation.

On examination, her temperature was 99.8° F. Her lung exam revealed fine crackles bilaterally. She had no rash or lymphadenopathy. Lab tests showed a



Figure 1: Chest X-ray showing bilateral interstitial opacities.

white blood cell count of $14 \times 109/L$, creatinine of 68.63μ mol/L and normal liver function tests. Chest X-ray and a computed tomography scan section are shown in *Figures 1 and 2*. Bronchoscopy with bronchoalveolar lavage was performed and a cytopathology slide is shown in *Figure 3*.

What is your diagnosis?

Diagnosis: The patient was diagnosed with *Pneumocystis jiroveci* pneumonia (PCP). She was started on trimethoprim/ sulfamethoxazole (TMP/SMX) and prednisone. Her bronchoalveolar lavage (BAL) fluid did not grow any other pathogens. Despite aggressive therapy, her respiratory status continued to deteriorate and she succumbed to multi-organ failure.

Discussion:

Highly effective chemotherapy regimens and the resulting significant suppression of T- cell mediated immunity has made non-Hodgkin lymphoma the most common hematological malignancy associated with PCP (1). Pneumocystis jiroveci, previously known as P. carinii, is a historically important acquired immune deficiency syndrome (AIDS) related opportunistic fungal infection. Absence of standardized prophylaxis and unclear diagnostic and therapeutic criteria pose a special challenge in this cohort, as the presentation and outcome markedly differ from what is seen in AIDS patients with PCP (2). Large oncology case series have reported an underlying lymphoma in up to 30% of PCP patients with mortality rate approaching 30% to 50%, which is much higher than what is reported in AIDS patients (1, 3-6). This high mortality remains unchanged despite advocated prophylaxis in high-risk groups (6).

The pathogenesis of Pneumocystis jir-



Figure 2: Chest computerized scan section showing bilateral ground glass opacities.



Figure 3: Gomori Methanamine silver stained histologic section shows cyst forms of pneumocystis in a background of frothy secretions. The cysts have characteristic cup or crushed ping pong shape with occasional sporozoite inside the cysts (original magnification x400).

oveci is debatable; proposed mechanisms of infection include either *de-novo* acquisition of the fungus from environmental exposure versus reactivation of latent infection in the face of immunodeficient status. Similarly the virulence factors of the organism are also poorly understood, although defective cell-mediated immunity resulting from depletion of CD4 + T-cells is considered the major factor promoting the development of PCP (7).

Contrary to a more subtle presentation in AIDS patients, Human Immunodeficiency Virus (HIV) negative patients with lymphoma follow a more acute course -with abrupt onset of fever, non-productive cough, dyspnea, chest pain and chills or even fulminant respiratory failure requiring mechanical ventilation. Other associated findings include a much higher respiratory rate and lower arterial oxygen saturation than seen in HIV patients (1, 8). Auscultation of the lungs may reveal evidence of wheezing, rales or rhonchi but is normal in the majority of patients.

PCP should be considered in every lymphoma patient with pneumonia that does not respond to antibiotic therapy, especially if the imaging studies are consistent with that entity. Accurate diagnosis of PCP rests on high index of clinical suspicion, as patients may be overtly immunocompromised even before the start of chemotherapy or can present with non-

includes a plain chest radiograph showing diffuse bilateral opacities extending from the perihilar region outwards. The chest X-ray, however, may be normal early in the course of illness. Highresolution computerized tomography of the chest is helpful in equivocal cases; it reveals characteristic bilateral patchy ground-glass attenuation, thickening of interlobular septa and interstitial pneumonia. Other lab abnormalities include an elevated serum lactate dehydrogenase (LDH), which carries both diagnostic and prognostic value (11, 12). Definitive diagnosis, however, relies on identification of the organism in histopathological specimens obtained by sputum induction (sensitivity: 30-90%, specificity: 99-100%), BAL (sensitivity: >95%, specificity: 100%) and trans-bronchial or open lung biopsy (13, 14). Silver stains like Giemsa-stain. Gomori's methenamine silver nitrate stain or Cresyl violet stain are used to detect the organism in different samples (15). Other known techniques to diagnose PCP include indirect immunoflorescence testing of samples using monoclonal antibodies, polymerase chain reaction (PCR) testing and detection of β -D-Glucan (BDG), a cell wall component (16, 17), in serum. These diagnostic methods may be less satisfactory in non- HIV lymphoma patients, because of fewer organisms and a more pronounced inflammatory response (18). Of note and in contrast to HIV patients, PCR testing has a low positive

specific symptoms (9, 10). Initial workup

predictive value in lymphoma patients with PCP (sensitivity: 25.0%, specificity: 44.4%) (19).

Treatment depends on the severity of illness and may be initiated before the diagnostic workup is complete, especially in critically ill patients. Trimethoprim/ sulfamethoxazole (TMP-SMX) at 15 to 20 mg/kg intravenously or orally daily in three or four divided doses for three weeks is considered the treatment of choice for PCP in non-HIV-infected patients (20). It is well validated by numerous trials in HIV patients (20-22). TMP/SMX is characterized by ease of use, excellent oral bioavailability, favorable side effect profile and cost effectiveness. Pentamidine is used for severe PCP cases in patients unable to tolerate TMP/SMX or those who are allergic to it, while atovaquone, primaquine and clindamycin are used in milder cases of PCP. In lymphoma patients, however, the validity of this therapy is restricted to largely single center observational reports (23). All patients being treated for PCP should be monitored closely for signs of toxicity including elevated creatinine, hyperkalemia, fixed drug eruptions and myelosuppression that may require discontinuation or change of therapy (24). As in HIV patients, the respiratory status of lymphoma patients with PCP might worsen after antimicrobial therapy is started. Adjunct therapy with steroids is recommended in PCP patients with partial pressure of oxygen \leq 70 mmHg; it

is to be initiated with antibiotic therapy and slowly tapered afterwards.

PCP prophylaxis is advocated in patients with certain risk factors (1, 25). These include patients receiving high-dose of corticosteroids, lymphopenia before or during chemotherapy, intense chemotherapy with regimens like R-CHOP-14 or R-CHOEP-14 or regimens containing monoclonal antibodies, and patients undergoing bone marrow transplantation or thoracic radiotherapy (3, 15, 25-28). These patients require daily TMP-SMX or alternatively aerosolized pentamidine, dapsone, or oral atovaquone lasting up to six months as the duration of immunosuppression may be prolonged even after the completion of therapy (29).

Acknowledgement: none

Conflict of interest: No authors have conflicts of interest to report.

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