Consumer Healthcare App Usage: Should Clinicians Be Concerned?

In 2014, Pew Research found that 90% of American adults own cellphones and 58% own smartphones. Mobile devices and the apps that run on them have become so ubiquitous that, after launching its App Store in 2008, Apple trademarked the advertising catchphrase “There’s an app for that”™ in 2010. Since then, use of mobile devices and the attendant apps has undergone explosive growth. The two largest online app “stores,” Apple and Google Play, offer 1.2 million and 1.3 million apps respectively. Apps track local weather, connect users to social media, give directions, supply recipes, even simulate the sounds of an airport. More than 43,000 apps related to health and healthcare fill the “shelves” of the Apple iTunes store alone, according to the IMS Institute for Healthcare Informatics.

Healthcare Apps

Experts agree that mobile technology utilization offers great potential for improving cost-effective clinical practice. Apps like ePocrates, MicroMedex, Medscape, and iGeriatrics among many others, offer health professionals access to information quickly and easily. Healthcare apps can be helpful tools used to supplement clinicians’ knowledge and educate and monitor patients. The proliferation of apps to “improve medical health practice supported by mobile devices” even spawned an acronym: mHealth.

For consumers, apps offer information and education regarding medical conditions, with numerous apps focusing on such common diagnoses as diabetes, hypertension, and asthma. Nutrition and exercise are also popular topics for apps. Clinicians and patients can use health care apps in collaboration to track weight loss or blood glucose, record exercise, and keep diaries of migraine occurrences, among other things, “enabling [them] to manage care in new, fast, and personalized ways.” iMedicalApps (www.iMedicalApps.com) and the health and medical section of The iPhone App Review evaluate and rate apps designed for health professionals.

In addition to educating consumers about medical conditions, some apps go a step further. Through the 1930’s, traveling medicine shows peddled medicinal elixirs — snake oil — that purported to heal everything from the common cold to joint pain. A modern-day version of snake oil might be the health care app that promises to check a user’s blood pressure using only the smartphone’s camera or monitor fetal heart rate for pregnant women (when used in coordination with an add-on device attached to the phone) or claim variously to diagnose ADHD, assess skin lesions, improve hearing, provide speech therapy, give eye exams, or hypnotize users into losing weight or quitting smoking. Most healthcare apps post disclaimers. The disclaimer is the same for both Real Blood Pressure (BP) Calc. (PurePush) and Blood Pressure Calculator Pro (PureLife): “This application is just meant to give you a hint of your actual BP measurements. Original readings may vary person to person. Distance between the camera and camera flash may add small error in the results.” One app’s creators warn that “the results given by this application are not a substitute for a professional opinion and, as such, we take no responsibility or liability for any course or treatment that you decide to take, or not take, based on this application’s results.” Nearly all state that the apps are for entertainment purposes only. The disclaimers appear at the bottom of the page and, sometimes, in small print.

Currently, the FDA intends to focus oversight only on “apps that present a greater risk to patients if they don’t work as intended and on apps that cause smartphones or other mobile platforms to impact the functionality or performance of traditional medi-
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cal devices.\textsuperscript{6} The proliferation of smartphones and healthcare apps without oversight worries some healthcare professionals. Wolf and colleagues measured the accuracy of 4 of the skin lesion assessment apps and found that 3 of the 4 apps “incorrectly classified 30% or more of melanomas as un concerning.”\textsuperscript{6}  

Clinician Responsibility?  
Given this, what, if any, responsibility do health care professionals have regarding apps that may lead to harm, if consumers rely only upon them for healthcare assessment?

J. Niel Rosen, J.D., Ph.D., ethicist at Rowan University School of Osteopathic Medicine points out, “A clinician cannot be responsible for the independent decisions his or her patients make to manage their own conditions. So, if a patient, outside of the clinical setting, chooses to use a device or app to monitor his or health, it is highly unlikely that the clinician could be held responsible for the adverse consequences that flow from any inaccurate or misleading information generated by the device or the mistaken conclusions the patient makes based upon his or her interpretations of the app/device’s reports.”\textsuperscript{7}

However, Dr. Rosen adds, “The clinician has a fiduciary duty to the patient: to protect the patient from harm, which includes the duty to educate the patient about his/her condition and how to monitor/manage it outside of the clinical setting. The duty to educate includes having a conversation about the use of devices/apps, especially in respect to a condition for which the clinician is providing medical care. Consequently, a physician who does not have this kind of conversation may have some liability for the adverse consequences his or her patients suffer when they use an app or device to monitor their health. This risk of liability would be highest for harms linked to the condition for which the clinician is providing medical care.”

Dr. Rosen suggests that “...the question ‘Do you use the internet [or smartphone app] to learn about or evaluate your health?’ should become part of the history taking routine.”

Including that question “allows the clinician to counsel the patient about using the internet [or app]. Finally, these conversations will help the clinician learn about internet [and app] usage and devices/apps that are being marketed to consumers.”\textsuperscript{7}

References
7. J. Niel Rosen, JD, PhD, email communication, August 15, 2014.

A Message from the Fellowship Directors...

Interprofessional teamwork is an important aspect of patient care. Describe an aspect of it in your specialty area that fellows experience.

“Effective collaboration & interaction can have direct ramifications for patient care. Poor teamwork skills in healthcare have been found to be a contributing cause of negative incidents in patient care, while effective teamwork has been linked to more positive patient outcomes. Fellows communicate with each other, with people and their families, & with the community in an open, collaborative & responsible manner. This type of communication builds trust amongst people, their families & team members.

-Jill York, DDS, MAS (Geriatric Dentistry)

Interprofessional teamwork is essential in Geriatric Psychiatric care. Without the input of other disciplines, it is almost impossible to gain the depth of understanding necessary to provide care to our patients. One of the hallmarks of NJISA’s care is the communication and teamwork we foster with other health professionals and mentoring that interaction for our fellows.

-Stephen M. Scheinthal, DO, dfACN, dfAPA (Geriatric Psychiatry)

The fellowship training offered through the NJISA is unique in that [fellows] routinely collaborate with social workers, physical therapists, dieticians to achieve patients’ desired goals of care.

-Kevin Overbeck, DO (Geriatric Family Medicine)

An aspect of interdisciplinary teamwork that we instill in the hospital ACE Unit is an understanding of the discipline of each member of the team. This is so important to help a team run smoothly.

-Terrie Ginsberg, DO, FACOI (Geriatric Internal Medicine)
Establishing a Special Needs Dentistry Program

The Tale of a Former Fellow

Kenson Noel, DMD’s first exposure to a patient population of older adults was at the Manhattan Veterans’ Administration Medical Center during his general practice residency in dentistry. He reports that "most of those patients were older men with chronic medical conditions and varying amounts of prescribed medications for management of their disorders." However, his interest in geriatric dentistry did not really blossom until after he had already joined the faculty of the University of Medicine and Dentistry of New Jersey – New Jersey Dental School (now Rutgers School of Dental Medicine).

Early on at NJDS, Dr. Noel’s clinical interests focus on special needs patients. In 2003, he introduced the concept of special-needs patients having dentistry procedures done in the acute care setting. "Obtaining an accurate patient’s past medical history data is very difficult when patients are unable to advocate for themselves." Dr. Noel relies "cautiously on family members and other direct caregivers who may not be fully informed about the patient medical history. For all patients of all ages with a diagnosis of mental incapacity," Dr. Noel goes so far as to request copies "of the patient’s initial psychological and or neurological evaluation. These documents are usually very detailed relative to past medical and social history of the patient." Using the documents, Dr. Noel and the inpatient team – dentist, anesthesiologist, nursing – prepare the patient’s plan of care. Since the program's initiation, the operating room team has treated more than 2000 patients. Some of those special needs patients are also older adults, which puts them in a doubly underserved population.

In clinic, Dr. Noel sees "a large number of elderly patients with complex medical conditions. In some cases, [the patients] also used a considerable amount of medication, both prescribed and alternative. In order to provide quality oral healthcare to patients in an educational facility, the faculty must think comprehensively in order to instill such a mindset in students, residents, and fellows. As an instructor, I also have to consider the quality of education and training I am able to provide." With the dual goals of improving care for older and special needs patients and broadening his teaching skills, Dr. Noel found that “the concept of the interdisciplinary approach to patient management” where dentists and physicians learn geriatrics together was just what he was seeking. When he received information about the geriatric dentistry fellowship at the School of Osteopathic Medicine, he "enrolled immediately in order to take advantage of this excellent educational opportunity."

As a fellow, Dr. Noel participated in geriatric medicine rotations with geriatricians and geriatric psychiatrists and psychologists, seeing patient care from the medical and behavioral care perspective. In turn, the physicians and psychologists saw dental patients with him and learned about care of older adults in the dental clinic setting.

The interdisciplinary aspect was one of the most satisfying pieces of the fellowship for Dr. Noel. He notes that the "program provides opportunities to work closely with professionals in other disciplines. I observed various styles of patient interview and data collection during my clinical rotations and I have incorporated some of these techniques in my encounters with my patients. Summarizing collected patient data to produce a succinct note after each patient encounter is a skill that also must be developed and I had many opportunities to be impressed and influenced by experienced clinicians’ summary notes." In turn, he teaches his students, residents, and fellows these techniques.

Dr. Noel found the time he spent in the fellowship to be "a golden opportunity" for him to gain knowledge about the special needs of geriatrics patients, to work with an interdisciplinary team of health professionals, and improve the care of his patients.

Following the training program, Dr. Noel was appointed Associate Director of the Geriatric Dentistry Fellowship. He continues to be an enthusiastic participant in the training program, teaching at the chairside and bedside for dentists, physicians, and psychiatrists and offering several lectures a year on geriatric dentistry topics.

Dr. Noel recommends that dentists can improve patient care by becoming "familiar with the common systemic disorders seen in the elderly" and remaining "current with drugs commonly prescribed for management of chronic diseases in the elderly." Dentists should also "become familiar with general anesthesia concerns in the elderly patient and hospital protocol for ambulatory surgery." In this way, dentists remain integral participants in interdisciplinary patient management.
The mission of the New Jersey Institute for Successful Aging (NJISA) is to promote successful aging and improve the quality of life of older adults and their families. The institute includes physicians, psychiatrists, dentists, nurses and behavioral health professionals who provide quality clinical geriatric care, teach other health care professionals and students, and demonstrate leadership in aging research. Trained faculty and staff also provide community education on successful aging and advocate for seniors on health care policy issues and standards, as the NJISA continues to be a pioneer in the field of geriatrics.

### Geriatrics—Did You Know?


-**The Institute of Medicine (IOM) released** recommendations for reforming the Medicare GME payment system and building an infrastructure that can drive more strategic investment in the nation’s physician workforce. See the IOM’s recommendations here: [http://www.iom.edu/~/media/Files/Report%20Files/2014/GME-GME-REC.pdf](http://www.iom.edu/~/media/Files/Report%20Files/2014/GME-GME-REC.pdf).


- The AGS has convened a panel of experts, including medicine, pharmacy, nursing and research, to update the AGS Clinical Practice for Postoperative Delirium, with the goals of outlining (1) the nonpharmacologic and pharmacologic interventions that should be implemented pre-, intra-, and postoperatively for the prevention of postoperative delirium before it occurs, and (2) the nonpharmacologic and pharmacologic interventions that should be implemented pre-, intra-, and postoperatively for treatment of postoperative delirium once it has occurred. To review the draft document, visit the AGS website: [http://www.americanagement.org/healthcare_professionals/clinical_practice/clinical_guidelines_recommendations/postop_delirium/](http://www.americanagement.org/healthcare_professionals/clinical_practice/clinical_guidelines_recommendations/postop_delirium/).


- **Stephen Scheinthal, DO, DFAPA, DFACN (Class of ’97)** published “Osteopathic Continuous Certification: It’s here -- are you prepared?” (J Am Osteopath Assoc June 1, 2013 vol. 113 no. 6 479-483) and participated in the research that led to “Two phase 3 trials of Bapineuzumab in mild-to-moderate Alzheimer’s disease” (N Engl J Med 2014;370(4):322-333).

- **Jill York, DDS, MAS (Class of ’93)** published “Dental students’ HIV/AIDS-related knowledge, attitudes, and intentions: Impact of the U.S. Health Resources and Services Administration Community-Based Dental Partnership Program” (Journal of Dental Education August 1, 2014 vol. 78 no. 8 1106-1117).

Are you interested in a geriatric medicine, psychiatry, or dentistry fellowship position, to start July 1, 2015? Contact Susan Huff for more information, 856-566-6124; huffsm@rowan.edu; or visit [http://njisa.edu/education/fellowship/index.htm](http://njisa.edu/education/fellowship/index.htm).