

Web Site Review: Patient Medication Counseling

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Introduction

Counseling patients regarding appropriate medication use is a vital component of a pharmacist's daily responsibilities. Patients receiving verbal instructions from the pharmacist is important, but may not be complete. Patients may not remember all the instructions and information provided to them, which may lead to medication non-compliance as well as medication misadventures. Therefore, in addition to spoken communications, providing written materials containing a medication overview with proper administration techniques, side effects, and dosing, is essential for some patients.

Pharmacies have computer programs that can print patient medication education sheets. These documents can assist the pharmacist in counseling patients. However, patients may obtain medication education from other sources besides the pharmacy. Many Internet sites are available free to the public that furnish medication information presented in terminology comprehensible to non-healthcare professionals.

Pharmacists need to be aware of these Web sites for various reasons. As more patients become reliant on the computer for information, pharmacists can recommend internet sites deemed appropriate for a patient desiring additional information regarding a medication. The patient may be eager to participate in his/her healthcare and have a willingness to learn about new medications, or the patient may have seen an advertisement for a new medication and wishes to learn more. In addition, free medication information Web sites can reduce costs for the pharmacist plus offer remote access to patient oriented information while away from the pharmacy.

The purpose of this review is to assess various Web sites that provide free access to prescription medication information prepared in non-healthcare professional language.

Discussion

A total of 16 Web sites were identified and reviewed (see Table 1). Overall the information provided by all the sites was very comparable, with some exceptions. A comparison of some notable features follows. USA Today Web site offers patients very comprehensive information for their personal medical care. The Web site not only directs the consumer to drug information, but also information addressing blood tests, recent news stories pertaining to their drug search, disease state information, and related information. Some advanced wording and language are also within this site. Drugs.com has consumer information, advanced consumer information, and professional information. The site also offers a search method to locate recommended medications to treat specific medical conditions. One Web site, emedicine.com, is least preferred. This site was difficult to navigate and provided more articles related to corresponding topics than direct drug information. Emedicine.com should be recommended only to consumers who not only seek medication information, but also disease state information. The remaining 13 sites presented the data logically and with bolded sub-headings for easy information retrieval. The Web sites in Table 1 are arranged by the author's preference based upon the most user-friendly and informative sites to the least recommended.

Table 2 presents a few differential features of selected Web Sites, particularly the origins of the information presented for these patient education sites. After reviewing the content of all the Web sites, 7

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Table 1: Web Sites Providing Free Patient Medication Information

Name	Web Site Address
USA Today	http://www.medicinenet.com/medications/article.htm
WebMD	http://www.webmd.com/medical_information/drug_and_herb/default.htm
Mayo Clinic	http://www.mayoclinic.com/health/drug-information/DrugHerbIndex
Safe Med	http://www.safemedication.com/
Medline Plus (USPDI)	http://www.nlm.nih.gov/medlineplus/druginformation.html
Drugs.com	http://www.drugs.com/
Winn Dixie	https://ecom.nhin.com/nhin/servlet/DrugSearchEntry?CHAIN_ID=WINNDIXI
Express Scripts	http://www.drugdigest.com/DD/DVH/Drugs/0,3912,,00.html
Walgreens.com	http://www.walgreens.com/library/finddrug/druginfosearch.jsp?cf=ln
Rite Aid.com	http://www.riteaid.com/pharmacy/monographs/
Health A to Z	http://www.healthatoz.com/healthatoz/Atoz/drugdb/drugGuideHome.jsp
IQ Health	http://www.subscribex.com/iqhealth/DrugSearch.html
FDA	http://www.fda.gov/cder/drug/DrugSafety/DrugIndex.htm
CVS.com	http://www.cvs.com/CVSApp/cvs/gateway/rxlisting
Discovery Health	http://health.discovery.com/webapps/drugreference.do?index=A&pagetype=index&click=dhc_leftnav&clik=health_leftnav
emedicine.com	http://www.emedicinehealth.com/

of the 16 sites (Discovery Health, Drugs.com, FDA, Health A to Z, IQ Health, Mayo Clinic, and Medline Plus) obtained their information from a single source, Micromedex/Cerner Multum. Although the information was identical among these Web sites, the presentation format differed among these sites. For example, Medline Plus and the Mayo Clinic contain a jump box (box located at the top of the Web page that provides a link directly to the topics stated within the box) at the start of the information.

Three Web sites (CVS.com, RiteAid.com, and WebMD) presented the information obtained from FirstDataBank, Inc. All 3 of these sites contain a jump box, facilitating the patient to the information they desire. Wolters Kluwer Heath, Inc. (Facts & Comparisons) was the information resource for Winn Dixie and Walgreens. Winn Dixie's site also contained a jump box. Express Scripts reads information from Clinical Pharmacology. The information presented by emedicine.com is not from a commercial vendor but written by pharmacists and reviewed by physicians.

One particular area of interest with increasing applicability is whether or not the information is available in Spanish. Four of the 16 Web sites offered Spanish: Medline, Winn Dixie, Rite Aid, and Drugs.com. An additional feature provided by Walgreens, WebMD, and Express Scripts is photos of the medications.

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Table 2: Features of Selected Web Sites Providing Free Patient Medication Information

Web Site Name	Origins of Data			Jump Box	Pictures of Pills	Spanish	Easy to use
	Micromedex/Cerner Multum	FirstDataBank, Inc.	Other				
USA Today			X				X
WebMD		X		X	X		X
Mayo Clinic	X			X			X
Safe Med			X				X
Medline Plus	X			X		X	X
Drugs.com	X					X	X
WinnDixie.com			X	X		X	X
Express Scripts			X	X	X		X
Walgreens.com			X		X		X
RiteAid.com		X		X		X	X
Health A to Z	X						X
IQ Health	X						X
FDA	X						X
CVS.com		X		X			
Discovery Health	X						
emedicine.com			X	X			

The Web sites reviewed have common information sub-headings. In fact, Health A to Z, IQ Health, and Discovery Health's share the exact information and presentation. The following list describes the information sub-headings that all sites have in common:

- Description
- Before Using This Medication
- Proper Use of This Medication
- Missed Dose
- Storage
- Precautions While Using This Medication
- Side Effects

Some sites have individual features that differentiate one from another. Below are the unique information sub-headings and the corresponding Web sites:

- Interactions: Express Scripts, CVS.com, WebMD, USA Today, FDA, Discovery Health, IQ Health, Health A to Z, WinnDixie.com, and RiteAid.com.
- What should I discuss with my healthcare provider before taking (the medication)?: Health A to Z, IQ Health, Discovery Health, FDA, emedicine.com, and Express Scripts.
- Who Should Not Take (the medication)?: emedicine.com
- How to Pronounce: CVS.com

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Conclusion

In conclusion, many free Web sites presenting medication information prepared for consumer use are available. Although all 16 sites present a similar collection of information, a few have multiple differences that distinguish selected sites as more user-friendly than others. Different education levels and computer savvy should be taken into account when recommending specific sites. Preferred Web sites are USA Today, WebMD, and the Mayo Clinic, while emedicine.com is least preferred. These tools provide additional modes of information dispersal that not only help ease the burden on the pharmacist's time, but can also provide valuable information to those who consult the Web sites.