

Evaluating Mobile Medical Applications

Conor Hanrahan
Timothy Dy Aungst
Sabrina Cole

Evaluating Mobile Medical Applications

CONOR HANRAHAN, PharmD, BCPS

Medical University of South Carolina
South Carolina College of Pharmacy
Charleston, South Carolina

TIMOTHY DY AUNGST, PharmD

MCPHS University School of Pharmacy
Worcester, Massachusetts

SABRINA COLE, PharmD, BCPS

Wingate University School of Pharmacy
Levine College of Health Sciences
Wingate, North Carolina



Any correspondence regarding this publication should be sent to the publisher, American Society of Health-System Pharmacists, 7272 Wisconsin Avenue, Bethesda, MD 20814, attention: Special Publishing.

The information presented herein reflects the opinions of the contributors and advisors. It should not be interpreted as an official policy of ASHP or as an endorsement of any product.

Because of ongoing research and improvements in technology, the information and its applications contained in this text are constantly evolving and are subject to the professional judgment and interpretation of the practitioner due to the uniqueness of a clinical situation. The editors and ASHP have made reasonable efforts to ensure the accuracy and appropriateness of the information presented in this document. However, any user of this information is advised that the editors and ASHP are not responsible for the continued currency of the information, for any errors or omissions, and/or for any consequences arising from the use of the information in the document in any and all practice settings. Any reader of this document is cautioned that ASHP makes no representation, guarantee, or warranty, express or implied, as to the accuracy and appropriateness of the information contained in this document and specifically disclaims any liability to any party for the accuracy and/or completeness of the material or for any damages arising out of the use or non-use of any of the information contained in this document.

Director, Special Publishing: Jack Bruggeman

Acquisitions Editor: Robin Coleman

Editorial Project Manager: Ruth Bloom

Production Manager: Kristin Eckles

Cover and Page Design: David Wade and Carol Barrer

© 2014, American Society of Health-System Pharmacists, Inc. All rights reserved.

No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying, microfilming, and recording, or by any information storage and retrieval system, without written permission from the American Society of Health-System Pharmacists.

ASHP is a service mark of the American Society of Health-System Pharmacists, Inc.; registered in the U.S. Patent and Trademark Office.

ISBN: 978-1-58528-458-0

CONTENTS

Introduction

Rise of Mobile Applications (Apps)

Table 1: Key terms and definitions

Figure 1: Number of apps by operating system

Smart Devices and Medicine

Relevance to Pharmacy Practice

Mobile Medical Apps in Clinical Practice

Dangers and Pitfalls of Mobile Medical Apps

Regulation of Mobile Medical Apps

Table 2: FDA regulation of medical apps

Approach to Critiquing Medical Apps

Traditional Methods for Critiquing Resources

Table 3: HONcode's 8 principles for certification of websites

Figure 2: HONcode seal of approval

Table 4: AHRQ criteria for evaluating health information on the Internet

Evaluating Mobile Medical Apps

Figure 3: Common information icons used in mobile apps

Figure 4: Obtaining details about mobile apps

Figure 5: Assessing the design of mobile apps

Tools for Evaluating Mobile Medical Apps

Table 5: Rubric for evaluating mobile drug information apps

Table 6: Checklist for evaluating mobile drug information and medical reference apps

Table 7: Checklist for evaluating mobile medical calculators

Summary

References

Annotated Outside Sources

Appendix 1: Worksheet for Evaluating Mobile Medical Apps

INTRODUCTION

Within the past decade, great strides have been made in the advancement of mobile devices. While the early part of the decade saw the rise of personal digital assistants (PDAs) and mobile phones, recent advancements have led to an evolution of mobile devices into so called *smart devices* (e.g., smartphones, tablet computers) with further features not present before. Several factors helped contribute to this change, including increased processing power, greater memory storage, a reduction in the size of components, and lower costs to consumers. In addition, cellular services have greatly increased along with the availability of Internet connections through Wi-Fi networks, allowing greater access to information on the Internet via smart devices. Furthermore, most smart devices now incorporate sensors such as accelerometers, global positioning satellite components, and cameras, which have greatly impacted their scope and utilization.

Taking into consideration the technical growth of smart devices, many products are now capitalizing on mobile software applications (apps). These apps are tailored to a specific mobile platform and allow users to perform actions that use one or many functions built into the smart device. Such apps enable users to engage in forms of social media; pursue leisure activities (e.g., photography, shopping, travel, dining);