

ABACUS: Developing a framework for evaluating mobile apps in health care

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CONTEXT

The increasing use of mobile devices (e.g., smartphones, tablet computers) and their associated applications (“apps”) provides new opportunities and challenges for healthcare providers, educators and students to integrate these new technologies into teaching and learning. Mobile apps used as part of healthcare education or decision-making should be usable, up-to-date and accurate, as any information used as part of healthcare decision-making may be “high-stakes.” While the FDA is focusing regulation efforts on a small subset of mobile medical applications (e.g., those that act as medical devices), most apps are not regulated. Furthermore, the app marketplace is filled with hundreds of thousands of health and medical apps. To aid learners and users in determining which health and medical apps to use, this project establishes a proposed framework for app evaluation.

METHODS

In addition to principles for evidence-based decision-making, there are also a variety of methods used to evaluate websites and online information (e.g., “Is it CRAAP?”, RADCAB, CARDS). In order to develop an evaluation framework for medical and health apps, key components of established website evaluation and evidence-based decision making methods were reviewed and selected identified concepts were compiled into a schema that, along with testing, may be used to evaluate medical and health apps. Six criteria were identified by which apps may be evaluated so that healthcare practitioners, educators and students can make better-informed decisions about which apps they use to acquire medical information or as part of their healthcare decision-making processes.

RESULTS

Six criteria were compiled into a schema (ABACUS) as follows:

- Accuracy
- Bias/Objectivity
- Authority
- Currency/Timeliness
- Usability
- Scope/Completeness



The information for the ABACUS evaluation framework is presented online as part of the Arizona Health Sciences Library’s resource guide for mobile users (<http://azhin.org/evaluating-apps>) on the “Evaluating Apps” page. This web page elucidates each of the metrics of the schema so that the user can learn which dimensions to review and the types of questions to ask in order to determine whether an app might be usable in a health care setting. Since creation of the “Evaluating Apps” page, the page has been viewed 472 times and is also being referenced by the University of Wyoming Geriatric Education Center. Although we are beginning to work locally to promote and integrate the ABACUS framework into the educational program, we are hoping to more widely promote the framework so that more users can be educated in determining which health and medical apps to use.

CONCLUSION

The ABACUS framework has been developed and made available online for users to access and utilize for self-learning in order to better appraise and assimilate medical and health apps. The use of the ABACUS framework provides a contextual backdrop for understanding how technical and evidence-based factors contribute to whether an app should be used in health care or education. Further research and work is suggested to promote and analyze the effectiveness of this framework.

KEY MESSAGE

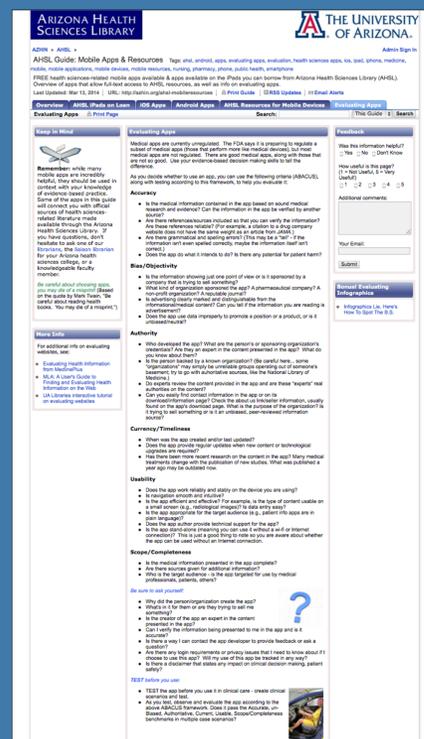
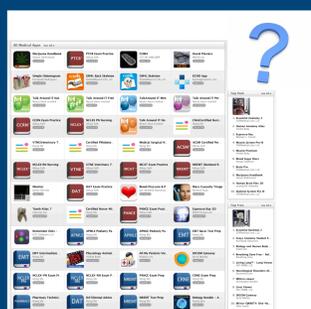
Systematically reviewing an app before using it for medical education or clinical care is recommended. Using the ABACUS evaluation framework to determine whether an app might be useful may help users more easily determine whether an app is worth using or recommending for medical education or evidence-based decision making purposes.

REFERENCES

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OBJECTIVE

To aid learners and users in determining which health and medical apps to use, this project was established to develop a framework for evaluation of health and medical apps.



Scan this QR code to view the ABACUS framework online:



Questions? Email Nicole at: nicole@ahsl.arizona.edu (you can also scan this QR code to send an email to Nicole)