As you decide whether to use an app, you can use the following criteria (ABACUS), along with testing according to this framework, to evaluate it:

Accuracy

- Is the medical information contained in the app based on sound medical research and evidence? Can the information in the app be verified by another source?
- Are there references/sources included so that you can verify the information? Are these references reliable? (For example, a citation to a drug company website does not have the same weight as an article from JAMA.)
- Are there grammatical and spelling errors? (This may be a "tell" - if the information isn't even spelled correctly, maybe the information itself isn't correct.)
- Does the app do what it intends to do? Is there any potential for patient harm?

Bias/Objectivity

- Is the information showing just one point of view or is it sponsored by a company that is trying to sell something?
- What kind of organization sponsored the app? A pharmaceutical company? A non-profit organization? A reputable journal?
- Is advertising clearly marked and distinguishable from the informational/medical content? Can you tell if the information you are reading is advertisement?
- Does the app use data improperly to promote a position or a product, or is it unbiased/neutral?

Authority

- Who developed the app? What are the person's or sponsoring organization's credentials? Are they an expert in the content presented in the app? What do you know about them?
- Is the person backed by a known organization? (Be careful here... some "organizations" may simply be unreliable groups operating out of someone's basement; try to go with authoritative sources, like the National Library of Medicine.)
- Do experts review the content provided in the app and are these "experts" real authorities on the content?
- Can you easily find contact information in the app or on its download/information page? Check the about us link/seller information, usually found on the app's download page. What is the purpose of the organization? Is it trying to sell something or is it an unbiased, peer-reviewed information source?

Currency/Timeliness

- When was the app created and/or last updated?
- Does the app provide regular updates when new content or technological upgrades are required?
Has there been more recent research on the content in the app? Many medical treatments change with the publication of new studies. What was published a year ago may be outdated now.

**Usability**

- Does the app work reliably and stably on the device you are using?
- Is navigation smooth and intuitive?
- Is the app efficient and effective? For example, is the type of content usable on a small screen (e.g., radiological images)? Is data entry easy?
- Is the app appropriate for the target audience (e.g., patient info apps are in plain language)?
- Does the app author provide technical support for the app?
- Is the app stand-alone (meaning you can use it without a wi-fi or Internet connection)? This is just a good thing to note so you are aware about whether the app can be used without an Internet connection.

**Scope/Completeness**

- Is the medical information presented in the app complete?
- Are there sources given for additional information?
- Who is the target audience - is the app targeted for use by medical professionals, patients, others?
- Be sure to ask yourself:
  - Why did the person/organization create the app?
  - What's in it for them or are they trying to sell me something?
  - Is the creator of the app an expert in the content presented in the app?
  - Can I verify the information being presented to me in the app and is it accurate?
  - Is there a way I can contact the app developer to provide feedback or ask a question?
  - Are there any login requirements or privacy issues that I need to know about if I choose to use this app? Will my use of this app be tracked in any way?
  - Is there a disclaimer that states any impact on clinical decision making, patient safety?

**TEST** the app before you use it in clinical care - create clinical scenarios and test.

As you test, observe and evaluate the app according to the above **ABACUS** framework. Does it pass the Accurate, un-Biased, Authoritative, Current, Usable, Scope/Completeness benchmarks in multiple case scenarios?

Source: Content modified from Arizona Health Sciences Library LibGuide Mobile Apps & Resources in the Health Sciences [http://libguides.library.arizona.edu/ahsl/mobileapps](http://libguides.library.arizona.edu/ahsl/mobileapps)