



All About Apps (Not the Food)

Dema Kadri

September 13, 2019

#Fridaythe13ED

Disclosures

- None to declare

**Unfortunately, without
my cell phone, I wouldn't:**

1. know what time it is
2. be able to solve a math question
3. know a single phone number
4. know the date
5. be able to text my friend when I'm at their house
6. take a snap shot at a picture-perfect time
7. be able to wake up from an alarm in the morning
8. find my way in the dark

Mobile Health in Medicine

- Has created great strides and allows information to be at our fingertips
- Increasingly popular among “millennials”
- There are a wide range of mobile applications that exist (information → diagnostic)
- Health application users continue to grow
- Systematic review found they could help patients with adherence
- No great studies able to be undertaken due to the range of Apps

COMMENTARY

Mobile cell phone technology puts the future of health care in our hands

Kumanan Wilson MD MSc

■ Cite as: *CMAJ* 2018 April 3;190:E378-9. doi: 10.1503/cmaj.180269

See related article at www.cmaj.ca/lookup/doi/10.1503/cmaj.170432

The digital revolution has affected virtually every aspect of our lives, and health is no exception. This is particularly evident in the burgeoning area of mobile health (mHealth). A subset of the overall digital health market, which is expected to exceed half a trillion dollars in revenue by 2025,¹ mHealth refers to the use of cell phone technology to deliver health care. A linked research paper reporting on the effectiveness of a smartphone camera functioning as a de facto photoplethysmograph to evaluate the adequacy of collateral circulation in patients scheduled for cardiac catheterization via radial artery access offers an excellent example of the opportunities presented by these technologies.² Using doppler ultrasonography as a gold standard, Di Santo and colleagues showed that the cell phone technology had superior diagnostic accuracy compared with the modified Allen test. Despite challenges in development and scale up of such technologies, there is much to be optimistic about in mHealth.

Early mHealth applications focused on the use of short message service text messaging with standard cell phones and had

KEY POINTS

- The advent of smartphone technology and mobile applications has increased the potential impact and scope of mobile health (mHealth) dramatically, but the challenges of bringing this technology into wider practice are substantial.
- Although downloads of smartphone applications are declining in general, health application usage has increased, particularly among millennials.
- Most mHealth applications do not undergo rigorous evaluation; indeed evaluation is difficult because of rapidly developing and changing technology.
- The health care profession and regulatory agencies should proactively address the challenges associated with bringing mHealth solutions into practice to maximize their benefits.

these obstacles are present in the case of the technology described by Di Santo and colleagues.²

The findings of the linked study are promising in many

Things to Consider When Selecting an App

Ease of use

Cost

Compatibility

Updates

Peer review

Organization
that created
the application

Purpose

References

Target
audience

Privacy
concerns

App-a-Types

Drug Reference

Point of Care

Guideline Apps

Medical Calculators

Journals

Social Media

Other

What's on the Menu?

MD Calc

Google Translate

Calcuim Calculator

ASCO Guidelines

UpToDate

Lexicomp

Medscape

Dynamed Plus

Figure 1

And More...

MD CALC

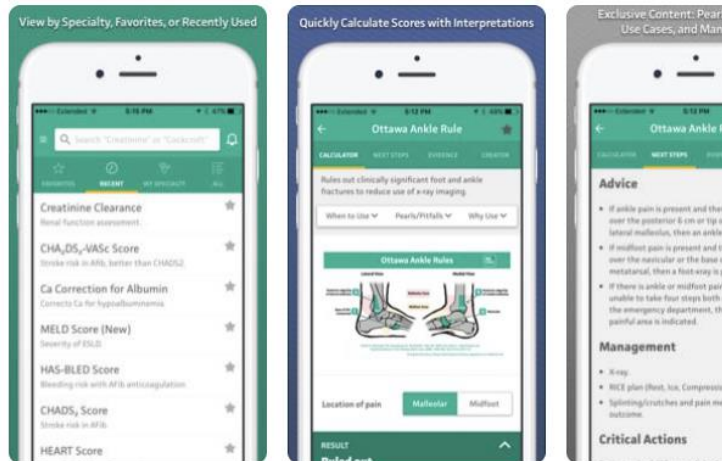
- **Cost:** Free
- **Uses:**
 - Medical Calculator
 - Can be used to calculate risk scores
 - Can be used to correct lab values
 - Can be used to find evidence for specific calculations
- **Positives:**
 - Easy to use
 - Updated regularly
 - Presents evidence for each calculation being used
 - Search function
 - Can be organized based on specialty
 - Internet access not required
- **Negatives:** None
- **Overall:** Excellent App



MDCalc Medical Calc...

Clinical Decision Support

★★★★★ 1.75K



Google Translate



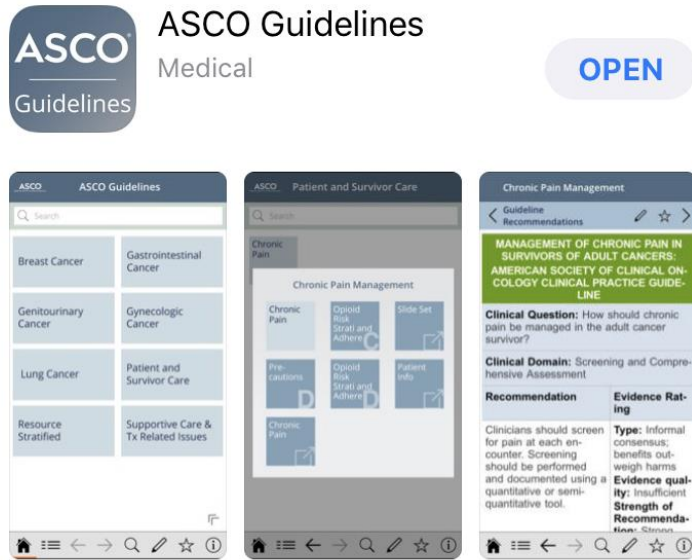
- **Cost:** Free
- **Uses:**
 - Translating spoken, written from one language to another
 - Can translate articles
 - Can have patient write a word on the screen in their native tongue
 - Can be used for travel
- **Positives:**
 - Excellent for translating between languages
 - Could be used to help with patient care if translator not available
 - User Friendly
- **Negatives:**
 - Requires internet connection to be used
- **Overall:** Excellent App !

Calcium Calculator

- **Cost:** Free
- **Uses:**
 - Determines daily calcium requirements by age and gender
 - Helps patients determine amount of calcium in their diet
 - Makes personalized meal plans to help them get more calcium
 - Gives them ideas of calcium rich foods based on their dietary preferences
- **Positives:**
 - Easy to use
 - Good resource for patients
- **Negatives:**
 - Very specific niche (ie: only calcium)
- **Overall:** Great

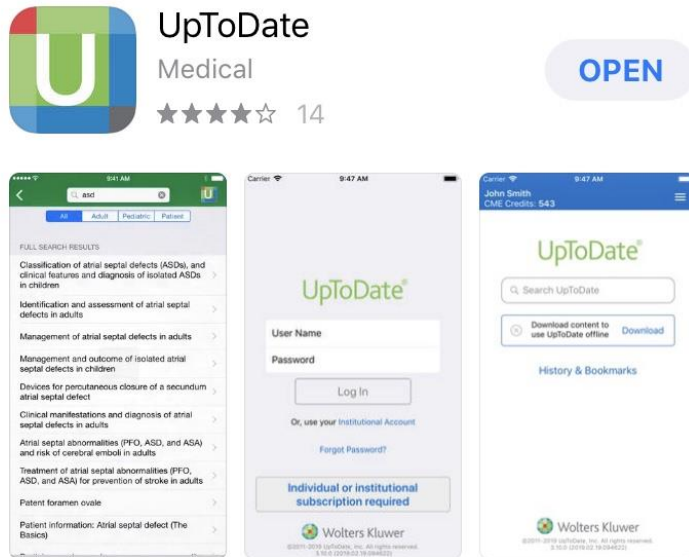


ASCO Guidelines



- **Cost:** Free
- **Uses:**
 - Easy access to guidelines of the American Society of Clinical Oncologists
 - Well organized into categories
 - Includes guidelines for treatment testing, survivorship care and follow up for the different types of cancer
- **Positives:**
 - Easy to use
 - Well organized
 - Very thorough
- **Negatives:**
 - Some guidelines have not been added to the App so you must use an external link
- **Overall:** Great

UpToDate



- **Cost:** Free to download (must have up to date access); \$519 USD/year
- **Uses:**
 - Point of care
 - Medical references
 - Evidence and guidelines for medical conditions and different presentations
 - Information for patients
 - Medication dosing
 - Medication interactions
- **Positives:**
 - Easy to use
 - A vast amount of information with references in text
- **Negatives:**
 - Costly
 - Not all information is according to Canadian guidelines
- **Overall:** Excellent App

Lexicomp

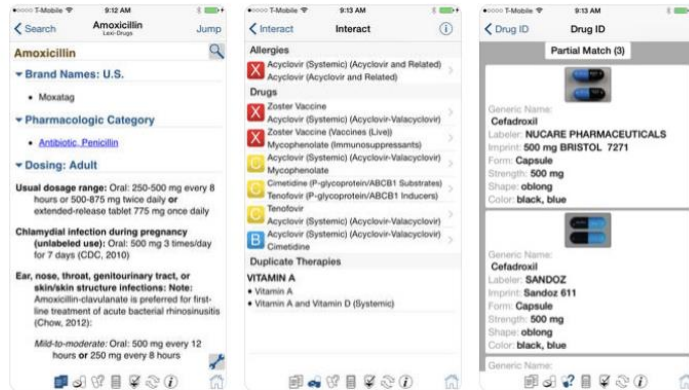
- **Cost:** Free to download (must have Lexicomp access), free through WRH;\$119-\$719/year
- **Uses:**
 - Provides point-of-care drug information
 - Dosing
 - Administration
 - Interactions
- **Positives:**
 - Great resource
 - Easy to use
- **Negatives:**
 - Pricey
- **Overall:** Excellent resource



Lexicomp
Medical

★★★★☆ 13

OPEN



Medscape

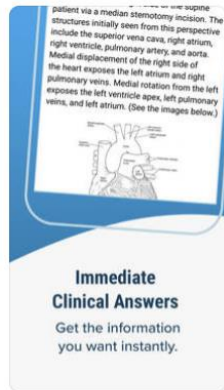
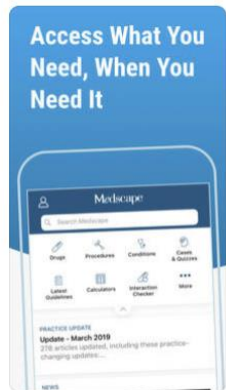
- **Cost:** Free
- **Uses:**
 - Point of care
 - Look up medications, guidelines, procedures, reference articles
- **Positives:**
 - Well organized
 - Free
- **Negatives:**
 - Not only Canadian Information
 - They send A LOT of emails
- **Overall:** Great



Medscape

Clinical Tools, News & CME/CE

★★★★☆ 29



Anti-infective Guidelines



- **Cost:** \$24.99
- **Uses:**
 - Looking up antibiotic information
 - Orange book for antibiotics in App form
 - Includes pediatrics and adult guidelines
 - Look up costs for different antibiotics
- **Positives:**
 - Easy to use
 - Updates regularly
 - Canadian information and costs
 - Can purchase hard copy of the book at a discounted price if purchased the app
- **Negatives:**
 - Does not contain every condition
- **Overall:** Excellent

DynaMed Plus

- **Cost:** Free to CMA members, free though WRH; \$395 USD/year
- **Uses:**
 - Point-of-care
 - Can look up guidelines, management, diagnostic testing recommended
 - Links to references and guideline websites
- **Positives:**
 - Easy to use
 - Section for guidelines, management, diagnosis
- **Negatives:**
 - Expensive if not CMA member
- **Overall:** Excellent



DynaMed Plus

Medical

★★★★☆ 6

OPEN

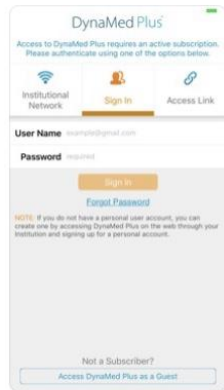


Figure 1



- **Cost:** Free
- **Uses:**
 - Social Media
 - Sharing interesting medical cases with other medical professionals
 - Learning about interesting presentations and management
 - Looking at interesting medical images
- **Positives:**
 - Easy to use
 - Social network for health care professionals
 - Great learning
- **Negatives:**
 - Privacy concerns
- **Overall:** Good

A dark blue, irregularly shaped graphic with a splatter effect, containing the text "More Useful Apps". The graphic has a textured, ink-like appearance with various shades of blue and white splatters around its edges. The text is centered within the dark blue area in a white, sans-serif font.

More Useful Apps

Guideline Apps

- Canadian Guidelines on Sexually Transmitted Infection
- Diabetes Canada Clinical Practice Guidelines
- Thrombosis Canada
- Canadian Cardiovascular Society
- Hypertension Canada Guidelines
- CKD Care: An Interactive Guide for Clinicians
- Canadian Urological Association



EMR

Telus EMR Mobile App

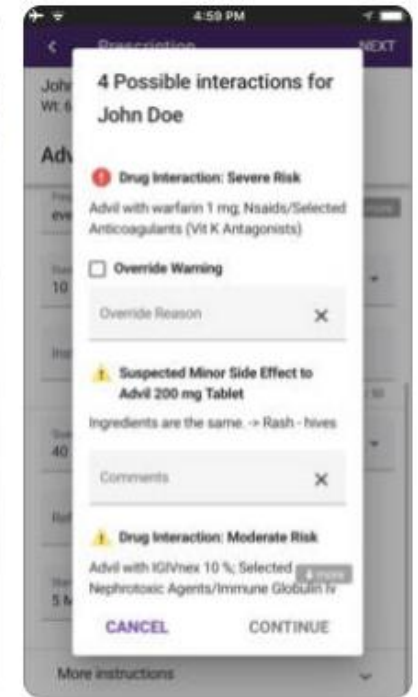


TELUS EMR Mobile

Medical

★★★★☆ 13

OPEN



Medical Calculator Apps

- QxCalc
- ePocrates



Other

- My Fitness Pal
- CMA Joule
- Things 3



CMA Joule

Medical

★★★★☆ 4

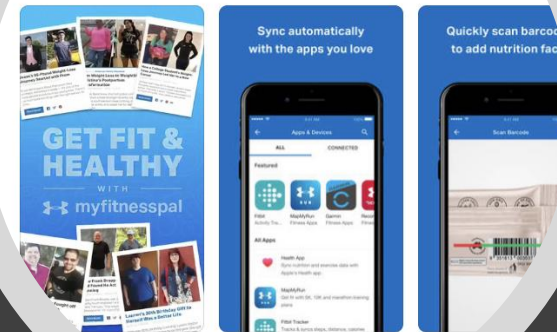
OPEN



MyFitnessPal

Calorie Counter & Diet Tra...

★★★★★ 72.2K

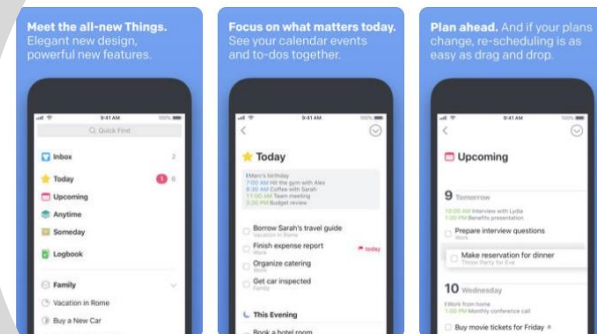


Things 3

Organize your life

★★★★★ 1.1K

\$13.99





THE FUTURE OF MOBILE HEALTH



WHERE IS

**THE APP THAT BRINGS ME
COFFEE?**

memegenerator.net

SNAPCHAT



#Fridaythe13ED

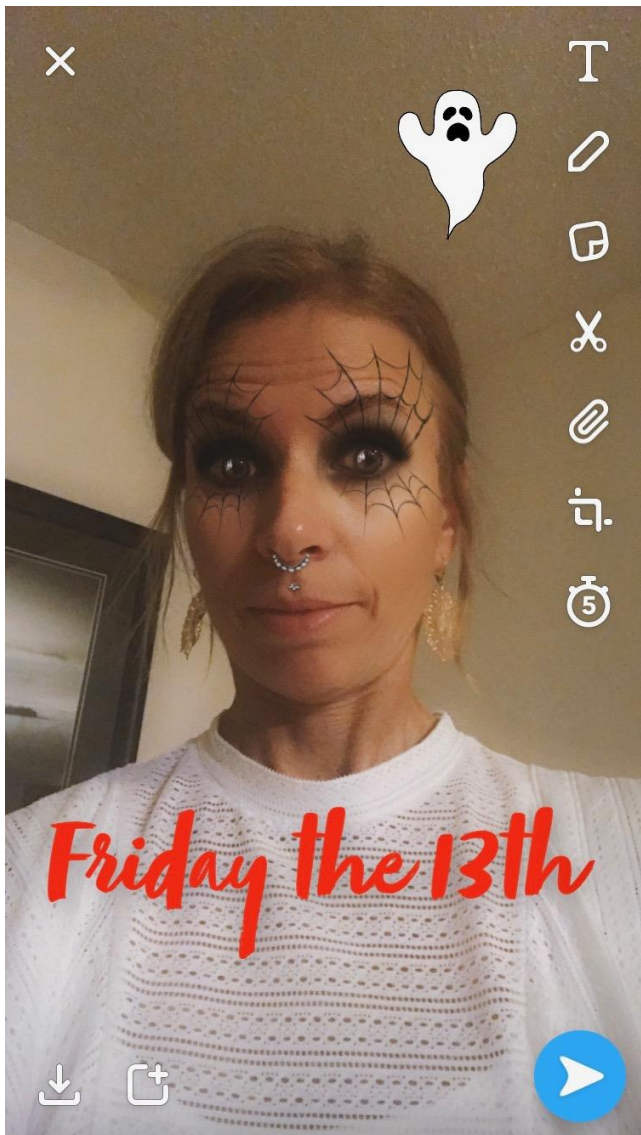
- **Cost:** Free
- **Uses:**
 - Social media
- **Positives:**
 - Easy to use
 - Send pictures/videos
 - Send messages
 - Watch videos
- **Negatives:**
 - Pictures, video, text disappear after you have opened it
- **Overall:** FUN!

PHOTO CHALLENGE

1. Take a photo with the group at your table using Snap Chat
2. Add the Cancer Education Day filter
3. Send photo to:
brooke.meloche@wrh.on.ca



HERE IS YOUR PLANNING COMMITTEE!



References

- Wilson, K. (2018). Mobile cell phone technology puts the future of health care in our hands. *CMAJ: Canadian Medical Association journal= journal de l'Association medicale canadienne*, 190(13), E378-E379.
- Boudreaux, E. D., Waring, M. E., Hayes, R. B., Sadasivam, R. S., Mullen, S., & Pagoto, S. (2014). Evaluating and selecting mobile health apps: strategies for healthcare providers and healthcare organizations. *Translational behavioral medicine*, 4(4), 363-371.
- Ng, R., Carter, S. R., & El-Den, S. (2019). The impact of mobile applications on medication adherence: a systematic review. *Translational behavioral medicine*.
- Buijink, A. W. G., Visser, B. J., & Marshall, L. (2013). Medical apps for smartphones: lack of evidence undermines quality and safety. *BMJ Evidence-Based Medicine*, 18(3), 90-92.
- [Chandresena, C. \(2018\). Medical Apps for Physicians and Patients. Ontario MD EMR: Every Step Conference. Link: https://www.ontariomd.ca/documents/events%20info/esc%20-%20toronto%20-%202018%20-%20presentations/medical%20apps%20for%20physicians%20and%20patients%20cchandrasena%20ontariomd%20emr%20every%20step%20toronto%202018.pdf](https://www.ontariomd.ca/documents/events%20info/esc%20-%20toronto%20-%202018%20-%20presentations/medical%20apps%20for%20physicians%20and%20patients%20cchandrasena%20ontariomd%20emr%20every%20step%20toronto%202018.pdf)

An APPetite for Apps

Break-out Session

- Group together with another table (webcast sites – collaborate as one group)
- Discuss the following questions:
 1. What apps do you currently use at work?
 2. What kind of app do you need/would you like to see created?
- After 25 minutes, will go around room and debrief on outcomes of conversations