



Mobile Devices to Improve Hospital Efficiency



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**CLINICAL CHALLENGES
In INPATIENT CARE
March 23-26, 2017**

Las Vegas

Disclosure

- I have nothing to disclose
 - No financial interest in any products
 - I have not been given free use of any product
- This presentation is intended to increase awareness of apps on the market and is not intended to recommend products for use in medical practice
- There are many more Apps than we have time to discuss.



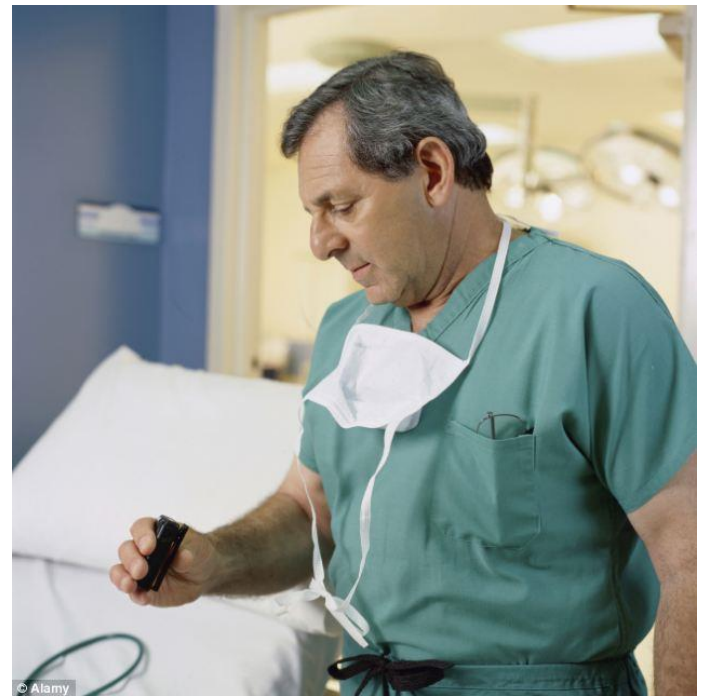
Remember When?



Last Paging Service 2012



Photo Credit: <http://www.ebay.com/>



© Alamy



Clinicians' Use of Mobile Devices (2014)

- To view patient information **69%**
- To look up non-PHI health information **65%**
- For education or training purposes **49%**
- For clinical notifications **42%**
- For secure communications regarding patients **39%**

Clinicians' Use of Mobile Devices



1 Do you use a mobile device in clinical work?

Mobile devices permitted or used in clinical work	88.1%
Mobile devices not permitted	11.9%

2 What type of mobile device do you use in clinical work?

Smartphone	63.3%
Tablet	19.9%

3 How many hospitalists choose not to use devices?

Smartphones are permitted, but I don't use them in my clinical work	16.8%
Tablets are permitted, but I don't use them in my clinical work	17.6%

4 The future use of mobile devices

In the next five years, do you anticipate the use of smartphones and tablets in clinical work will become . . .

Much more significant	71.7%
Slightly more significant	21.7%
About the same as now	5.8%
Use will decrease	0.8%

Advanced Nursing Care

- Wireless communication (Vocera or VOIP)
- Real-time location systems
 - Equipment, medications, patients
- Wireless patient monitoring
- Medication administration with bar-coding
- Workflow management systems
- Interactive patient education

Improving Efficiency for Doctors

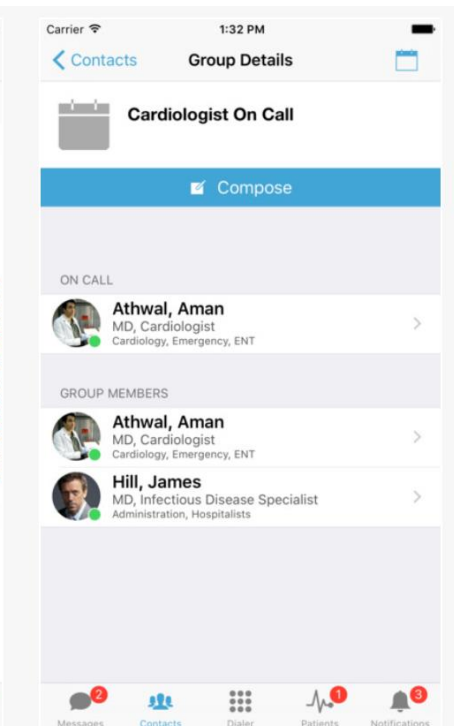
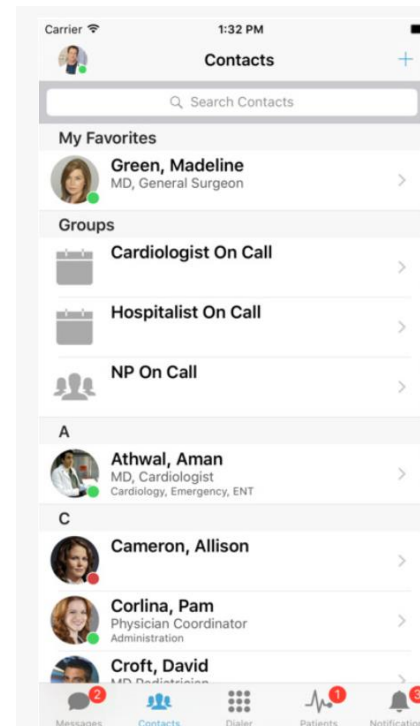
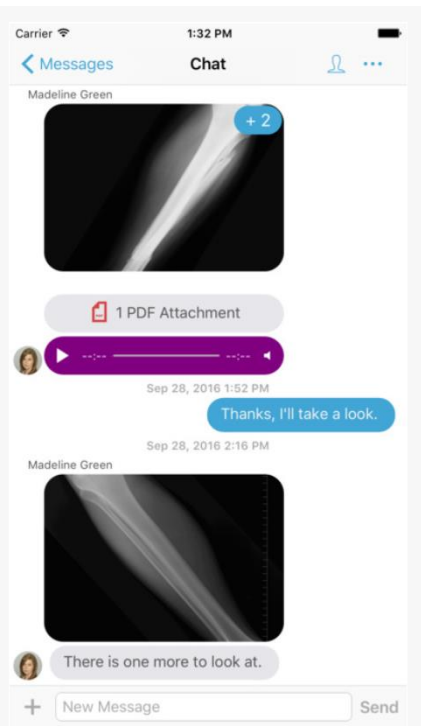
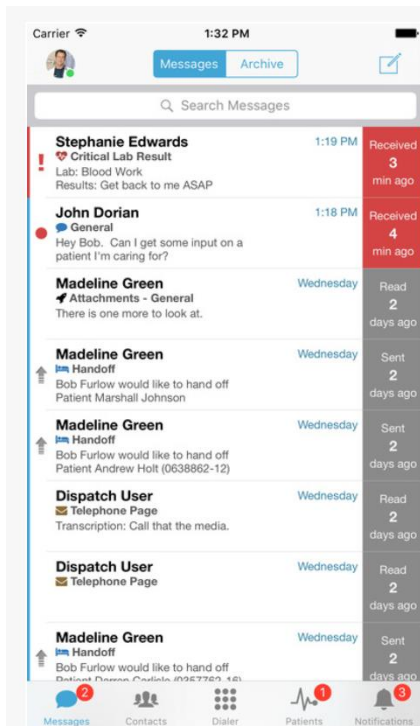
- **Communication**
- Information Retrieval
- Decision-Making
- Record-keeping
- Billing and Handoffs
- Patient Experience

Physician Communications



SmartPager by TeleMed IQ

- HIPPA Compliant pager
 - Text messages, pages, and voice messages
 - Can receive and send and confirm receipt
 - One touch call back and group paging
 - Storage of contacts
 - Voice to text transcription

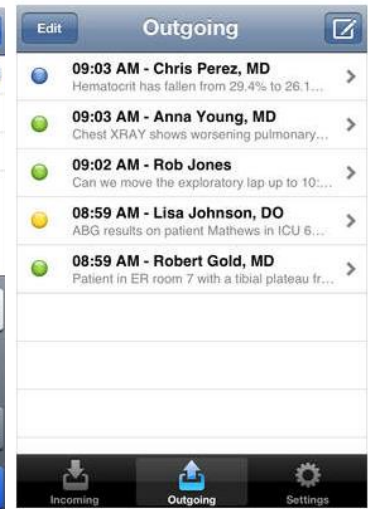
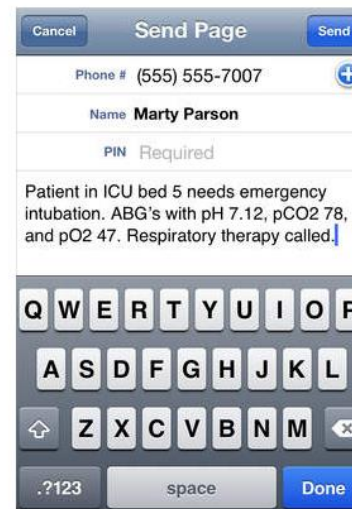
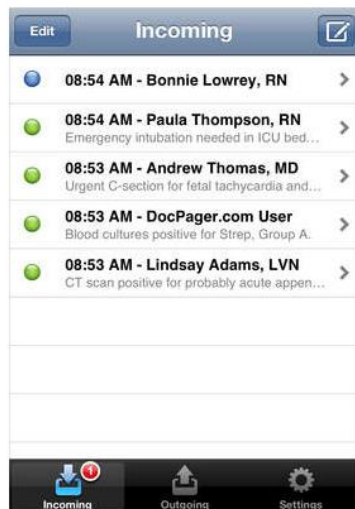
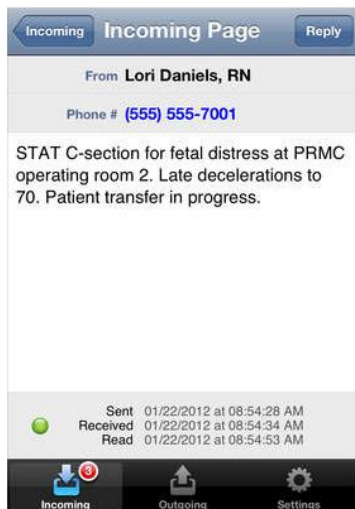




DocPager

- HIPPA Compliant pager
 - Text messages and pages
 - Uses cellular or WiFi
 - Can track incoming/outgoing pages
 - No voice message capabilities

(\$99.99/year)

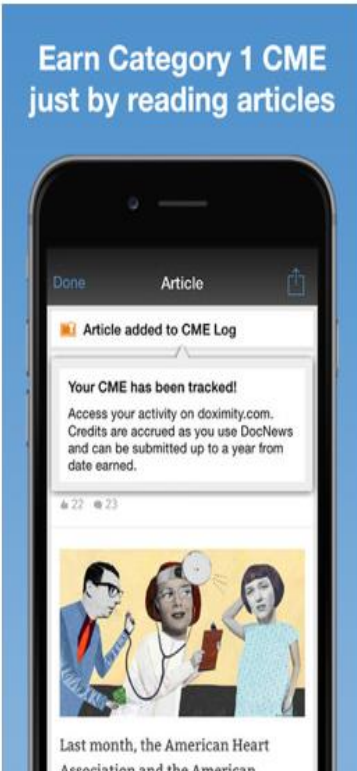


Networking between Doctors



Doximity

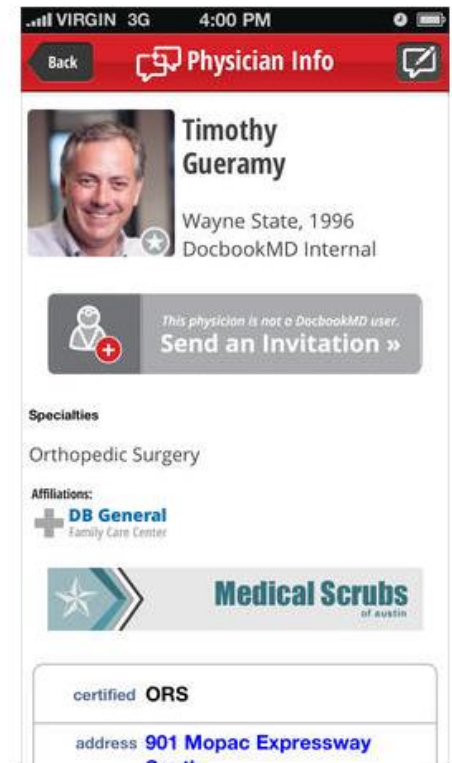
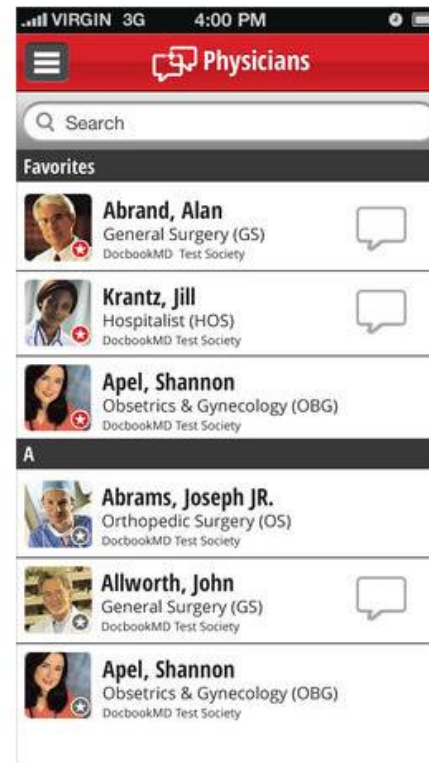
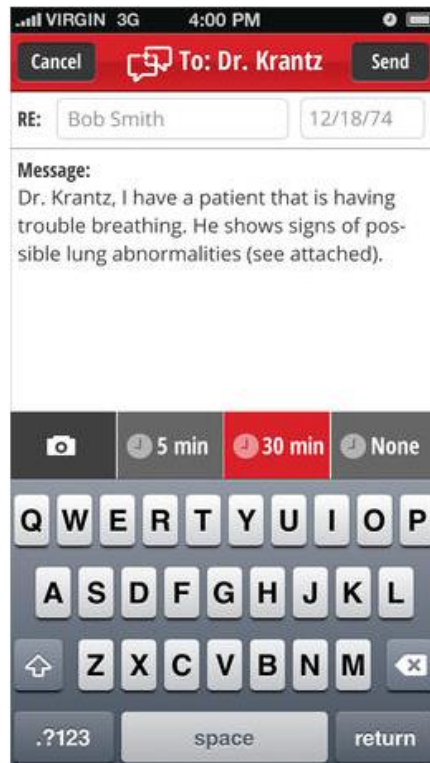
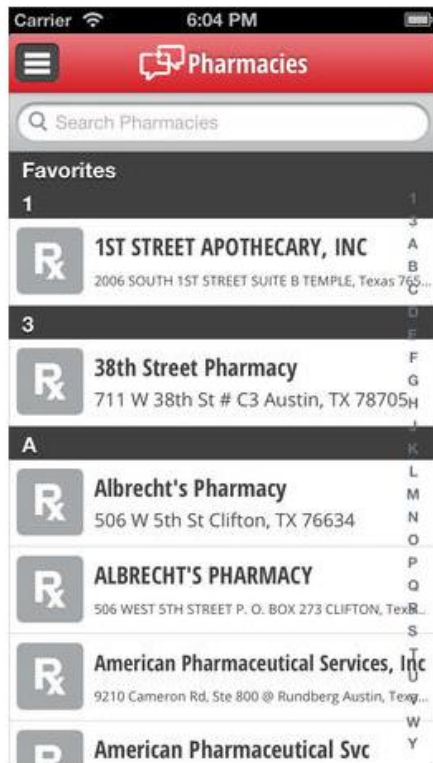
- Largest doctor network (>50% of physicians)
- HIPPA secure communication & faxing
- Find almost any US physician
- (Free) • CME articles and job offers for doctors only





DocbookMD

- Data sharing and communication tool for physicians and their team
- HIPPA secure transmission of patient data to colleagues
- (Free) • HIPPA compliant multi-media messaging



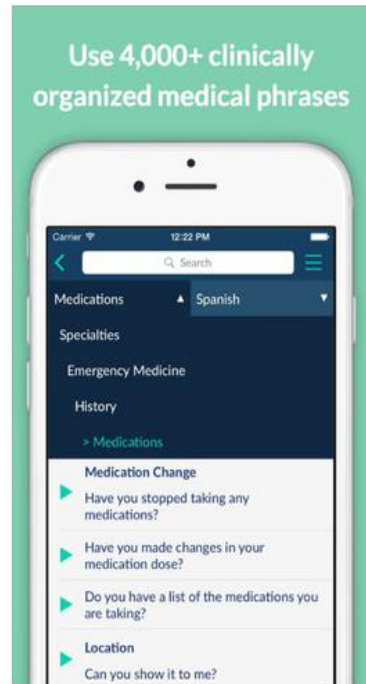
Communicating with Patients



Canopy

- Medical phrases translated for use at the point of care – multiple languages
 - Over 4000 common medical phrases
- Call your medical interpreter if needed

(Free)

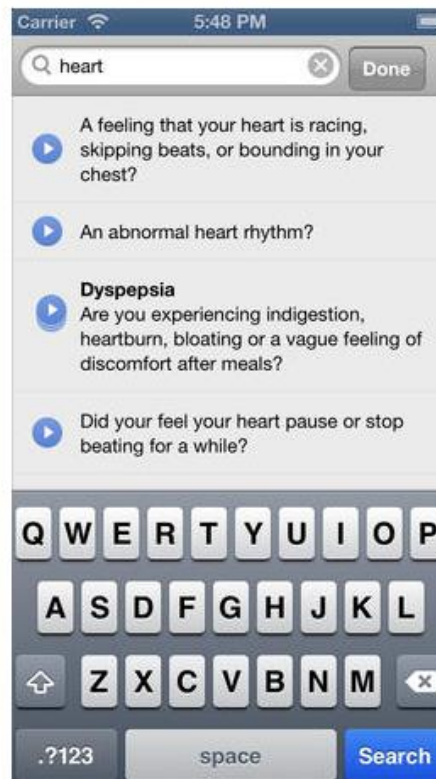
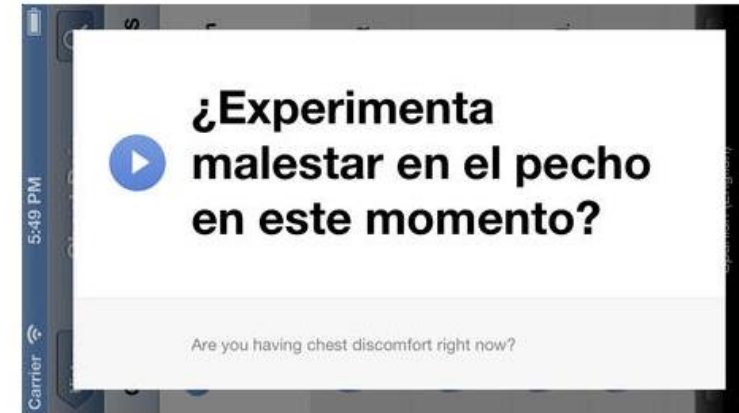




(Free)

MediBabble Translator

- Five languages with questions in order of H&P
- No internet connection required



Improving Efficiency for Doctors

- Communication
- **Information Retrieval**
- Decision-Making
- Record-keeping
- Billing and Handoffs
- Patient Experience

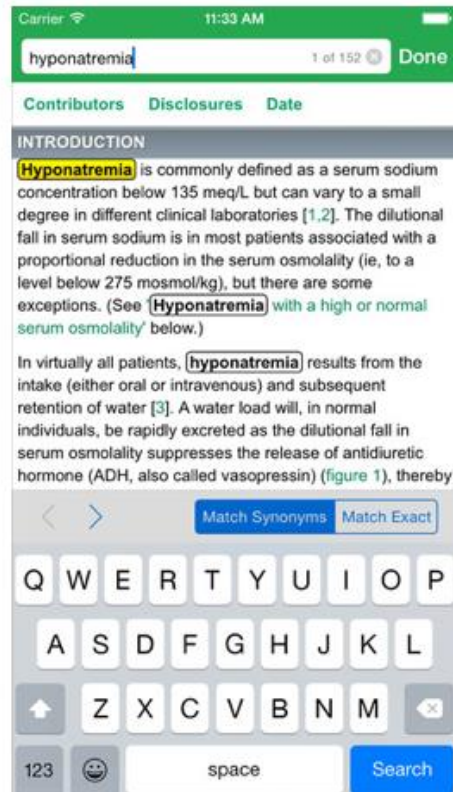
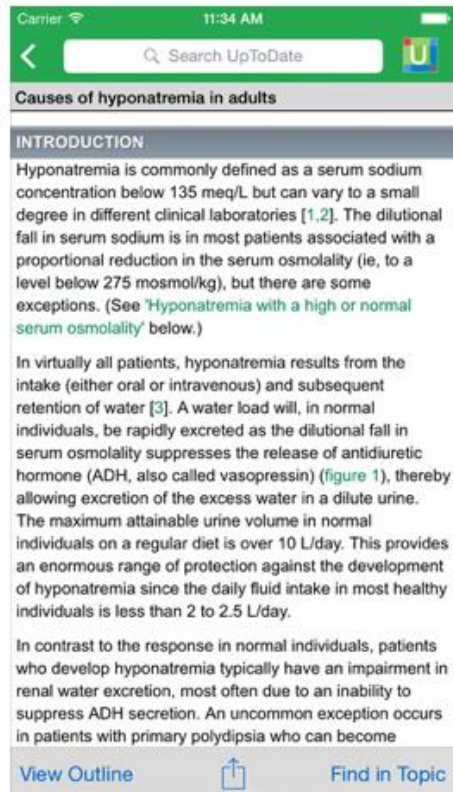
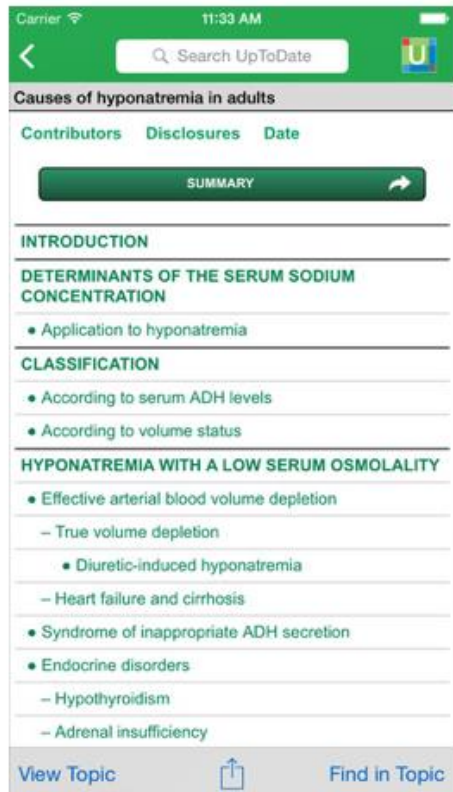
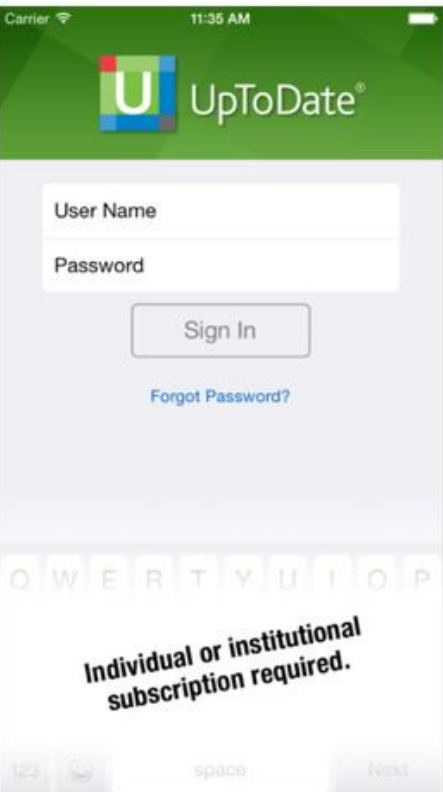
POS Reference
e-Books on the Go



UpToDate

- Leading clinical decision support resource
- Evidence-based clinical information
- Earn and track free CME
- Mobile optimized calculators

(\$500/year)





Medicine Central

- Integrated Drug and Test Resource
- Includes 5-MCC, Davis's Drug Guide, McGraw-Hill's Diagnosaurus, Pocket Guide to Diagnostic Tests, Medline Search

(\$169/year) • Requires annual subscription

Medicine Central™

Consult details on over 900 medical conditions

Search generic and trade name drugs and interactions

Review evidence-based information on hundreds of medical tests

Access citations and abstracts to 20 million journals



View full-color images to help reinforce key concepts



Jump to related information with Cross Links in each entry



Find topics across resources instantly with Universal Index Search



Bookmark frequently viewed topics

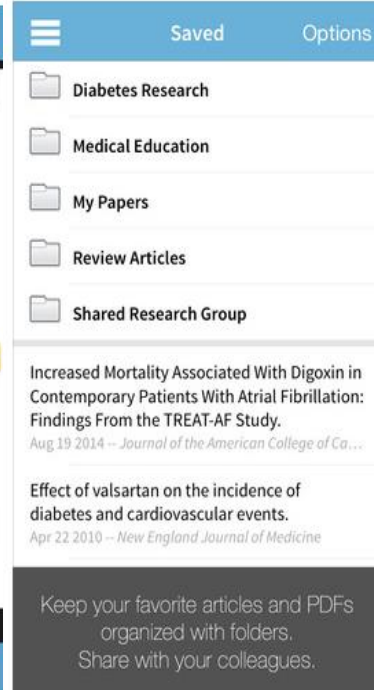
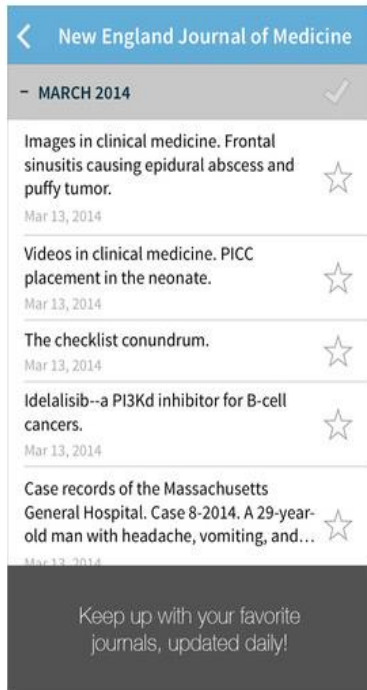
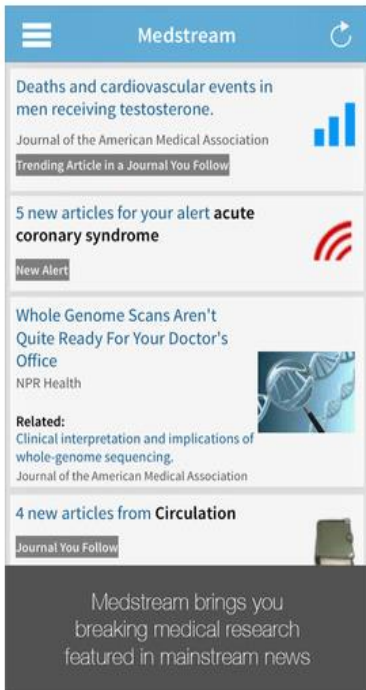




(Free)

Docphin

- Best App for Doctors in 2015
- Follow journals, search PubMed
 - access over 1000 landmark articles.
- Weekly e-mail digest
- Save and annotate PDFs





Epocrates

- Over 1 million doctors use Epocrates
- Drug prescribing, interactions, guidelines
- Medical calculator
- HIPPA Compliant text messaging

(\$175/year for Plus)

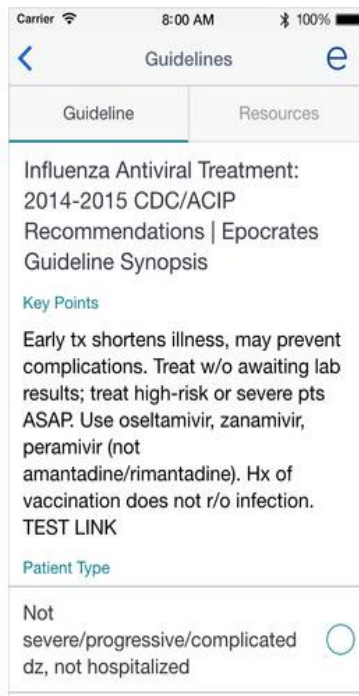
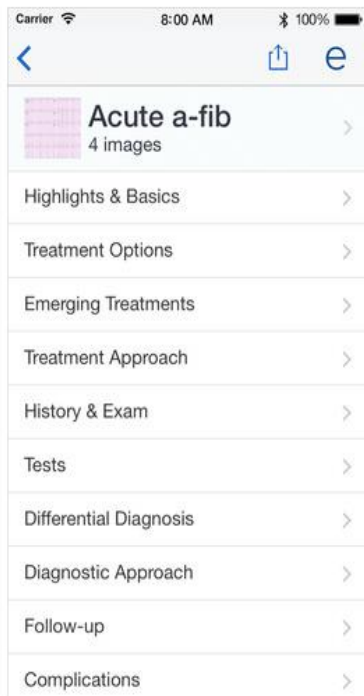
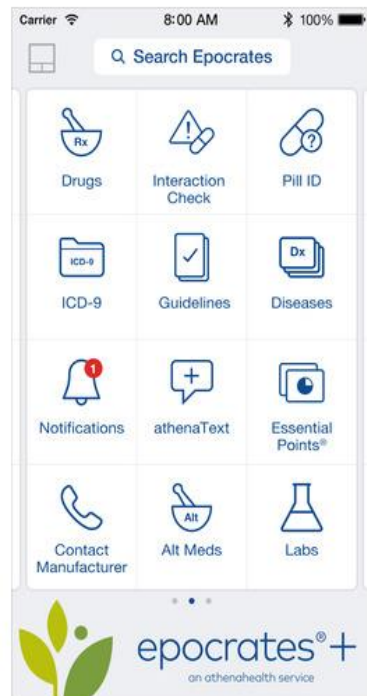
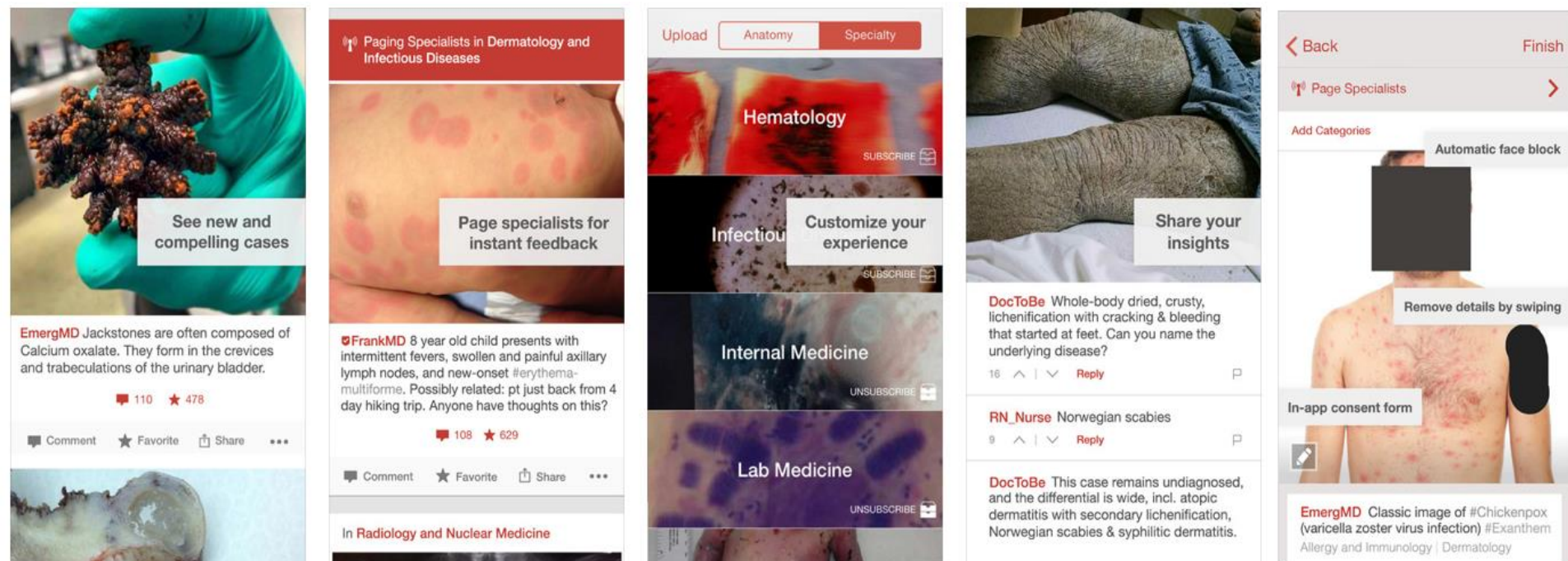


fig. 1

Figure 1

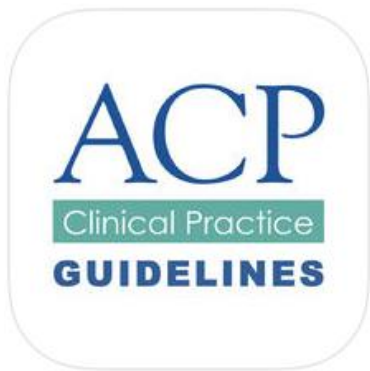
- Safely share clinical cases
- Help diagnose or teach others
- HIPPA Compliant
 - In-app consent form
 - Remove identifying details

(Free)



Improving Efficiency for Doctors

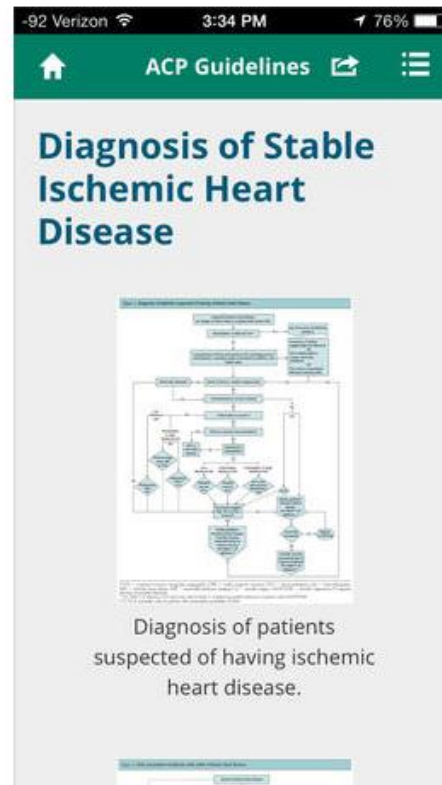
- Communication
- Information Retrieval
- **Decision-Making**
- Record-keeping
- Billing and Handoffs
- Patient Experience



Free

ACP Clinical Practice Guidelines

- Evidence-based clinical practice guidelines
- Includes recommendations and rationale
- Algorithms and summary tables
- Talking points



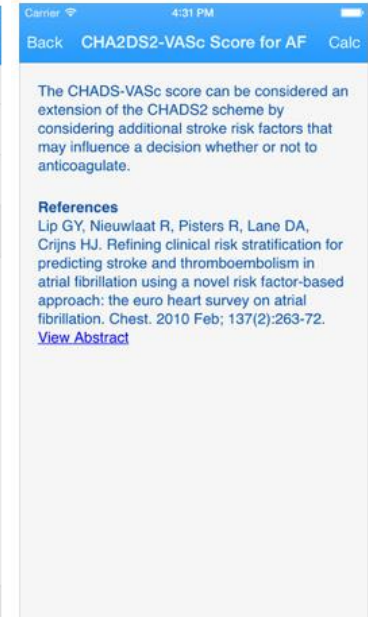
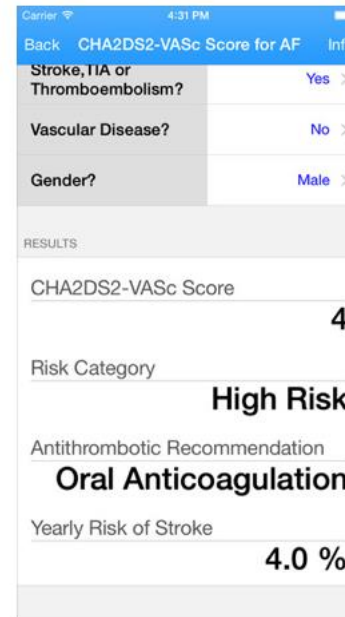
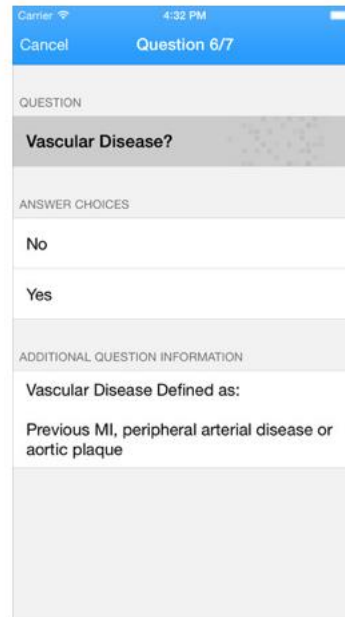
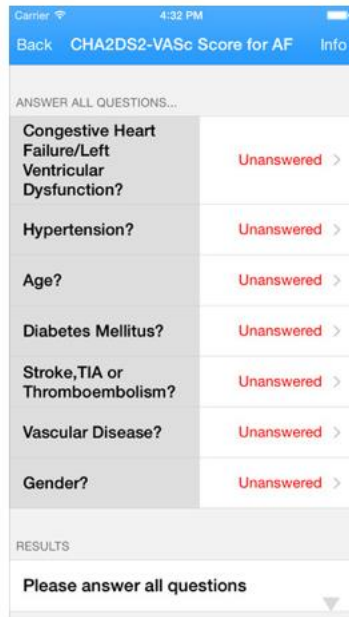
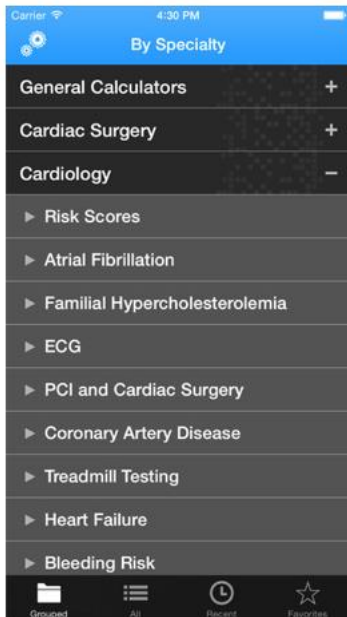
Medical Calculators



Free

Calculate by QxMD

- 200 calculators and decision support tools
- Pre-Operative Risk Calculators
- Referenced with PubMed integration



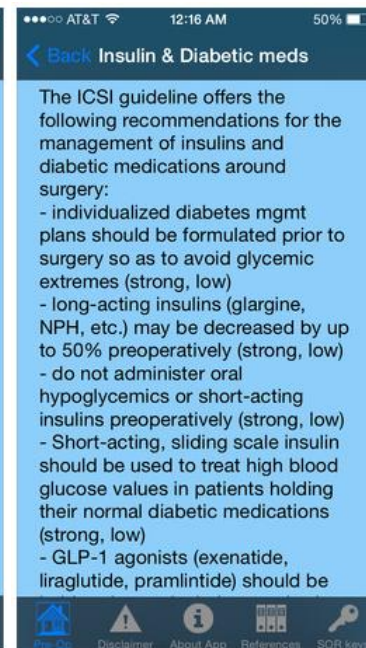
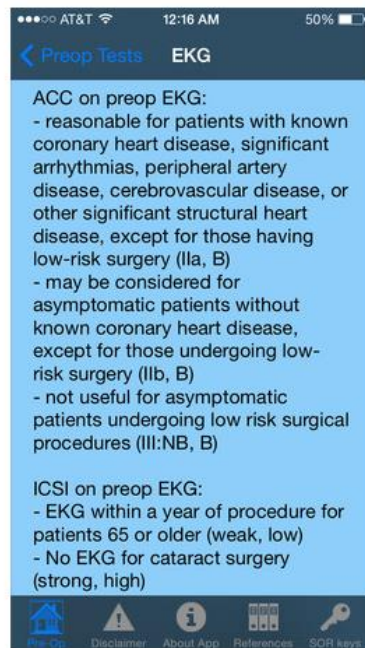
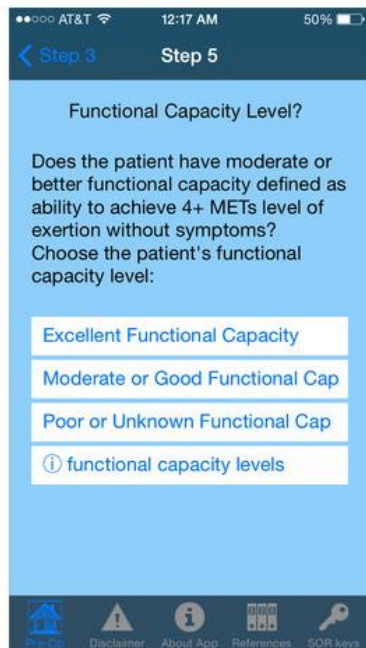
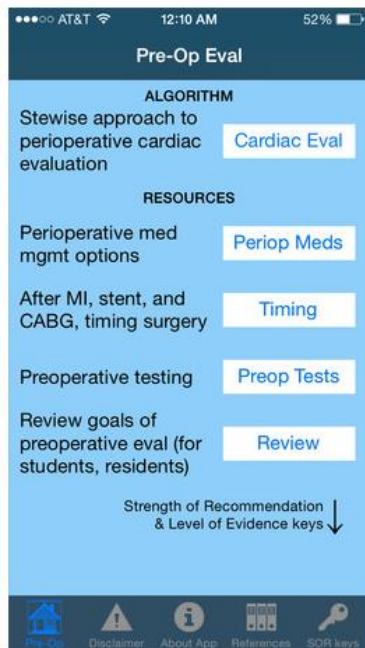


Preop Eval

Guidelines to evaluate and prepare adult patients for non-cardiac surgery

- Cardiac evaluation algorithm
- Medication start/stop guidance
- Timing of surgery after cardiac events
- Preoperative testing guidance
- Review of the periop evaluation for students/residents

Free
(iOS only)



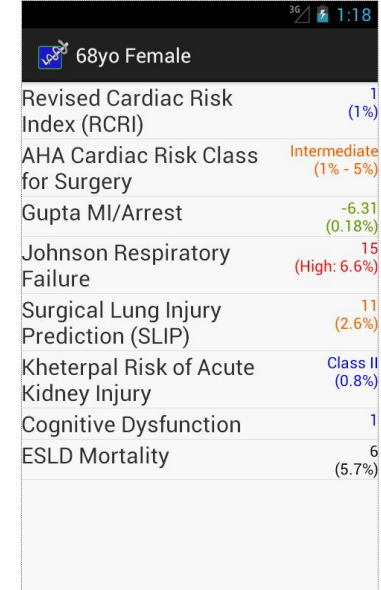
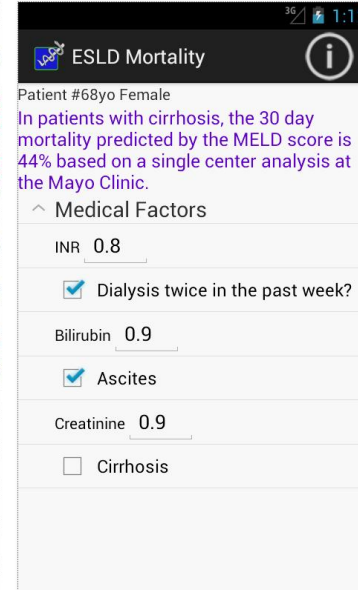
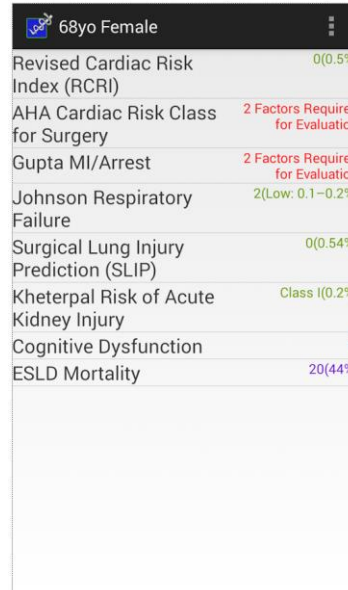
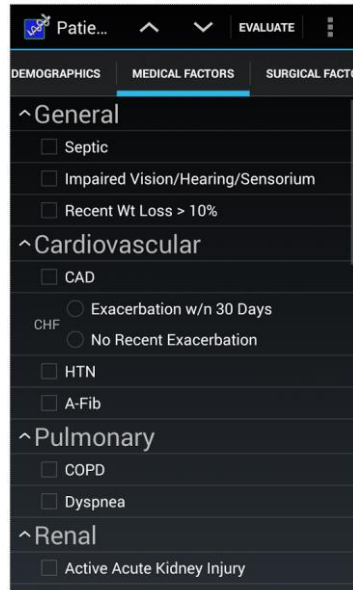
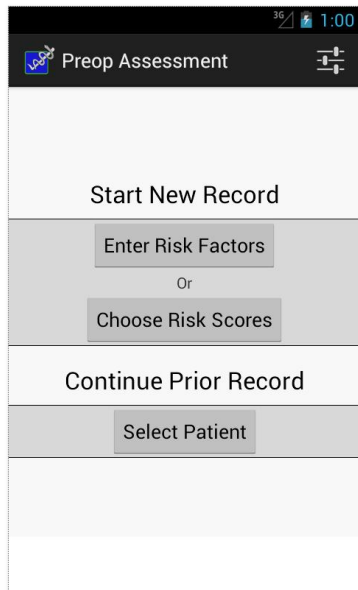


Preop Risk Assessment

Evaluate multiple risk scores without re-entering data

- Includes RCRI, RRI, SLIP, MICA

Free
(Android only)





ASCVD Risk Estimator

Free

- Published by the ACC and AHA
- Estimates 10 year and lifetime ASCVD risk
- Guidelines for therapy, monitoring, and lifestyle

Verizon 6:15 PM

Estimator Clinicians Patients About

ASCVD Risk Estimator*

10-Year ASCVD Risk	Lifetime ASCVD Risk
19.4% calculated risk	69% calculated risk
3.6% risk with optimal risk factors**	5% risk with optimal risk factors

Recommendation Based On Calcul... >

Gender: M F

Age:

Race: White African American

Verizon 6:15 PM

Estimator Clinicians Patients About

< Back Recommendation

Based on the data entered (assuming no clinical ASCVD and LDL-C 70-189 mg/dL):

- Gender: Male
- Age: 55
- Race: White/Other
- Total Cholesterol: 150
- HDL-Cholesterol: 55
- Systolic Blood Pressure: 150
- Hypertension Treatment: Yes
- Diabetes: Yes
- Smoker: Yes

Consider High-Intensity Statin

Moderate-intensity statin therapy should be initiated or continued for adults 40 to 75 years of age with diabetes mellitus. (I A)

High-intensity statin therapy is

Verizon 6:15 PM

Estimator Clinicians Patients About

Reference

Clinician References

- Understanding Cardiovascular Risk >
- Lifestyle Recommendations >
- Groups that Benefit from Statin Therapy >
- Recommendations for Initiation of Statin Therapy >
- Intensities of Statin Therapy >
- Recommendations to Monitor Response to Statin Therapy >
- Statin Safety Recommendations >

Verizon 6:15 PM

Estimator Clinicians Patients About

Reference

Patient References

- Understanding My Cardiovascular Risk >
- Diet and Physical Activity Recommendations >
- Weight Management Recommendations >
- Blood Cholesterol Management Recommendations >
- Groups that Benefit from Statin Therapy >
- Common Cardiovascular Terms >

AMERICAN COLLEGE of CARDIOLOGY American Heart Association

Verizon 6:15 PM

Estimator Clinicians Patients About

< References Patient Reference

Common Cardiovascular Terms

Alphabetical Glossary

A

Ankle-Brachial Index (ABI)

The ratio of the blood pressure in the ankle compared to blood pressure in the arm, which can predict peripheral artery disease (PAD).

ASCVD

Heart attack and stroke are usually caused by atherosclerotic

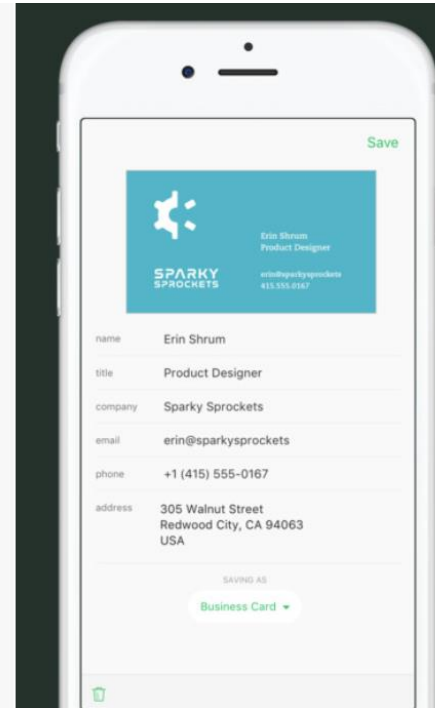
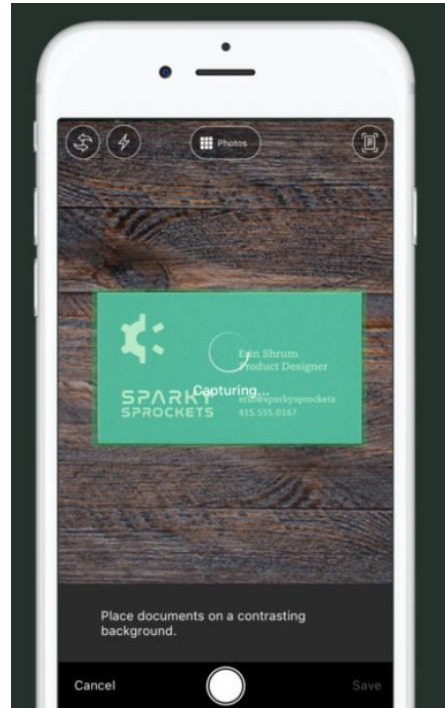
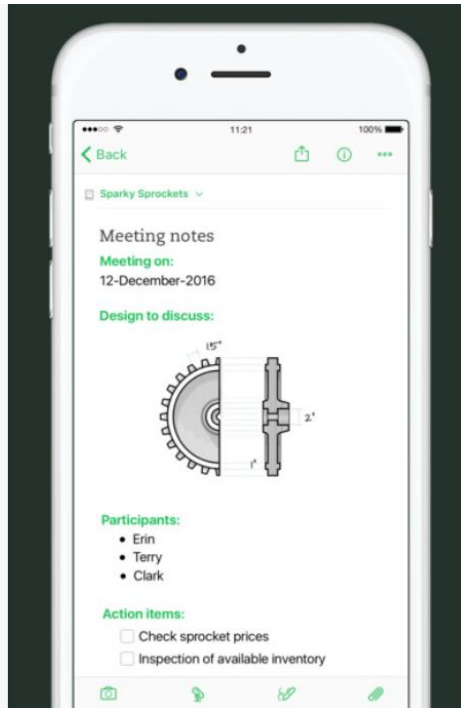
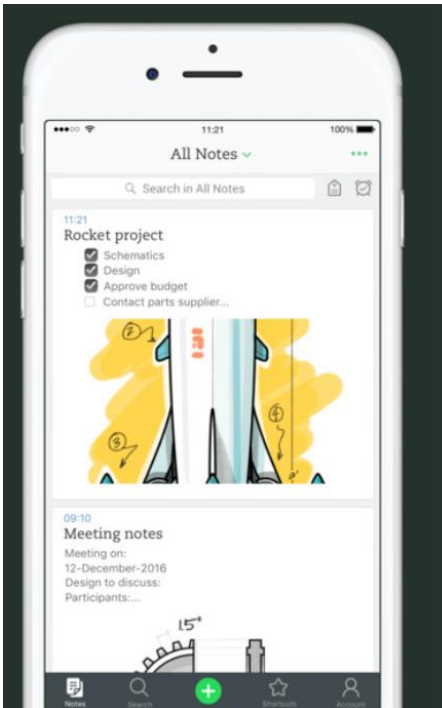
Improving Efficiency for Doctors

- Communication
- Information Retrieval
- Decision-Making
- **Record-keeping**
- Billing and Handoffs
- Patient Experience



Evernote

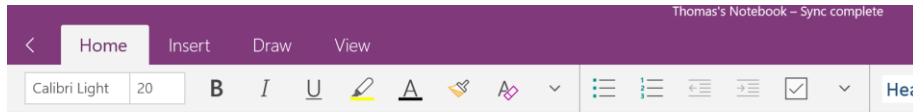
- Store any note or multimedia
- Keep meeting minutes
- Scan and save
- Search your own handwriting





One Note

Keep meeting notes
Store files and multimedia
Works great on tablets



Meeting with CommuniCare

Thursday, May 12, 2016 1:06 PM

- 1) Update on Expansion Grant
 - Give up on year 1 - revise NOGA
- 2) Planning Grant
 - May not be eligible
 - New Service area + HPSA/MUA; ISD
 - Need letter of support
- 3) Moving Forward
 - for 2017 need to hire PD this summer
 - Likely would be
 - 25% Clinical Care
 - 50% Program Director
 - 25% UWSOM

+ Page

Southwest General Hospital

SWGH

15 beds leased to St...

Meeting with University Medical Association

Drs. Alsip & Kapur

Meeting with Christus

Christus has delayed process. Jim Martin

Dr. Rao - CHRISTUS

Tianne Wans on The
- Director of Academics

Meeting with BHS

Dana Kellis
Graham Reese
Gary Whittington

Meeting with LMC

Enrique Gallegos
Michael Portacci

Meeting with University Medical Associates

Monica Kapur
Brian Alsip

Meeting with CommuniCare

- 1) Update on Expansion Grant
 - Give up on year 1 - revise

Meeting with Dave Garza

Meeting with Dave Garza

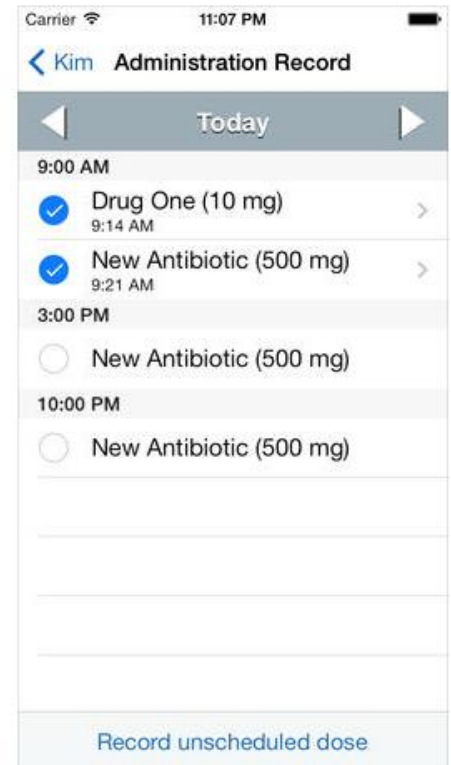
Personal Health Records



MyMedRec

- Personal Medical Record for Patients
 - Can be shared with health professionals
 - Reminders and logs for medications
 - Personal drug information

(Free)





Capzule PHR - Your Personal... Medical

+ \$19.99 ▾



Healthspek - Personal Health... Medical

Get ▾



onpatient PHR - Personal Health... Health & Fitness

+ Get ▾



FollowMyHealth Mobile Medical

+ Get ▾



Personal Running Trainer - Run... Health & Fitness

+ Get ▾

In-App Purchases



Personal Health Record Lite Medical

+ Get ▾

In-App Purchases



Teladoc Member - 24/7 access to ... Medical

+ Get ▾



Personal Health Record Health & Fitness

+ \$0.99 ▾



Health Tracker & Manager for iPa... Health & Fitness

\$6.99 ▾



Hamilton Depression Scal... Health & Fitness

+ Get ▾



Health Tracker & Manager by... Health & Fitness

+ Get ▾

In-App Purchases



YourHealthReco... Mobile Health & Fitness

+ Get ▾



ZenVault Medical PHR Medical

+ Get ▾



Doctor's Note Medical

+ \$0.99 ▾



Minerva PHR Viewer Health & Fitness

+ Get ▾



myPRs (formerly PR: Personal... Health & Fitness

+ \$0.99 ▾



yogApp Lite Health & Fitness

+ Get ▾

In-App Purchases



Family Health Record Health & Fitness

\$1.99 ▾



EasyMed Medical Passport Medical

+ Get ▾



Healee Medical

+ Get ▾



Provisor for iPad Medical

Get ▾



CBI Assistant Health & Fitness

+ Get ▾



NYU Langone Medical Medical

+ Get ▾



SecuEra PHR Medical

+ Get ▾



CladeHealth Medical

+ \$2.99 ▾



MedJournal Lite Medical

Get ▾



Healthmemo - Electronic Healt... Health & Fitness

+ Get ▾



CareFlowSHR Medical

+ Get ▾



iMedInfo Health & Fitness

+ \$1.99 ▾



Trillium Medical Center Medical

+ Get ▾



I'M HOME!™ Medical

+ Get ▾



Depression Screening Pro Medical

+ \$0.99 ▾



REKA Health & Fitness

+ Get ▾



Patient CCD Reader Medical

+ \$0.99 ▾



Better Day™ Health Medical

+ Get ▾



MphRx Medical

+ Get ▾



mihealth Medical

+ Get ▾



MyMedicalReco... PHR Health & Fitness

+ Get ▾



NSLJ Labs Medical

+ Get ▾



BCM Medical

+ Get ▾



MedJournal Medical

\$1.99 ▾



IDF ePHR Health & Fitness

+ Get ▾



CareFlow PHR Medical

+ \$4.99 ▾



Independent Medical

+ Get ▾



Shared Med Journal Health & Fitness

+ Get ▾



InstantPHR Health & Fitness

+ Get ▾



DRC Medical

+ Get ▾



Elite South Medical

+ Get ▾



Test Report Medical

+ Get ▾



Resource Access Card Health & Fitness

+ Get ▾

Electronic Health Records

Electronic Health Records



PrimeMOBILE



Mediforms EMR



WISE-Touch



eClinicalTouch



gEHRiMed for iPad



Kareo – EHR, PM, Medical Billing



Care360 HD for Physicians and...



Epic Canto Medical



drchrono EHR /



Practice Fusion EHR / EMR



OneTouch EMR



iMedDoc-EMR



Medicapp Health Records - EHR f...



HealthMEDX



Advanced Mobile Doc - ADP...

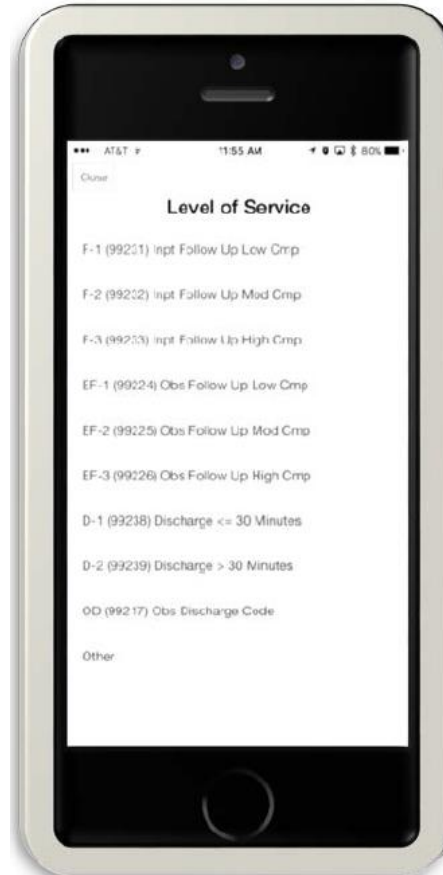
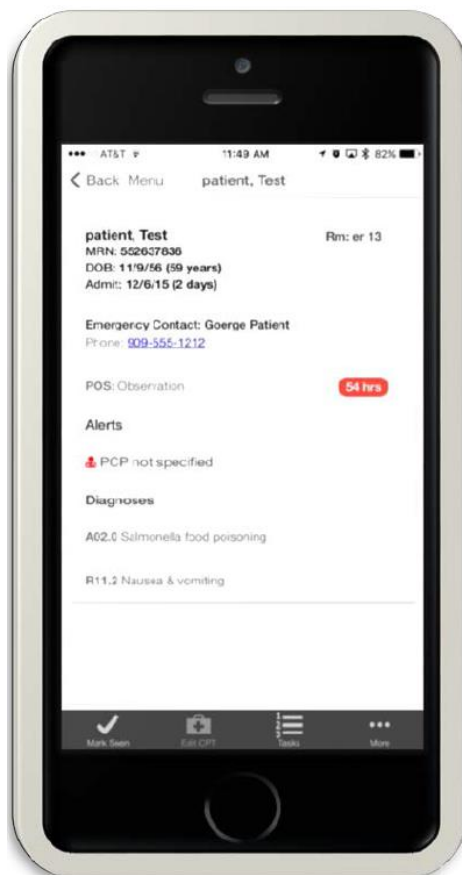
Improving Efficiency for Doctors

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- Record-keeping
- **Billing and Handoffs**
- Patient Experience



Brio (Sound Hospitalists)

- Patient list and basic patient data
- Note patients seen, anticipated discharge or pending admission
- See diagnosis list and note level of service
- Can enter data and billing info on the go



Symbols	
	Anticipated Discharge
	Avoidable Days
	New Admission
	Observation Place Of Service
	Pending Admission
	Primary Care Provider - None
	Transitional Care Services

Improving Efficiency for Doctors

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- Information Retrieval
- Decision-Making
- Record-keeping
- Billing and Handoffs
- **Patient Experience**

Enhancing the Hospital Experience

- Pilot at Boston Children's Hospital to help patients and families navigate their journey
- Given tablet to access the app which would:
 - Access test results: Patients and families can see the results of their laboratory and other tests displayed in both numbers and colorful graphics that are easier for non-clinicians to understand.
 - Access care plans: Patients and families can view what therapies and procedures clinicians have planned and their criteria for discharge.
 - Access the care team: Patients and families can send care-related questions to the clinicians providing their care; the questions are triaged by a nurse who either provides answers or sends the questions to the appropriate team member to address.
- The app has enhanced provider-patient communication and provided patients with a self-service mechanism they can access

Telemedicine Apps

- Useful in Transitions of Care?



TouchCare

- Video chat with YOUR doctor
 - Supplement your office practice
 - HIPPA Compliant
 - Follow-up appointments, test results, etc.
 - Not set up to charge for time

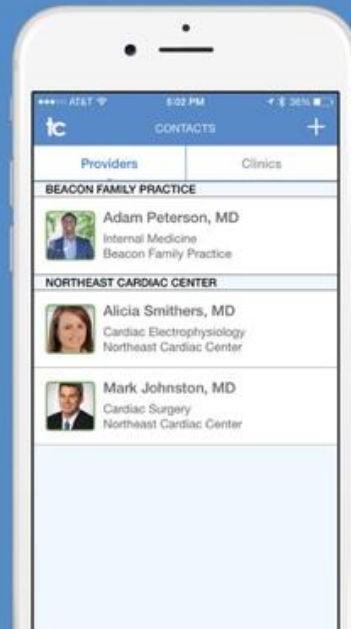
Video Appointments

Safe, secure video calls with your doctor.



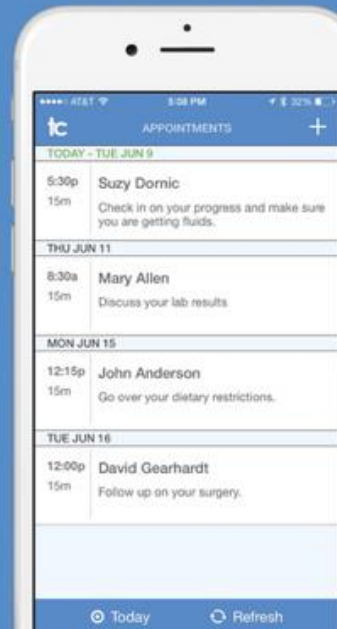
Providers and Clinics List

All of your contacts in one place.



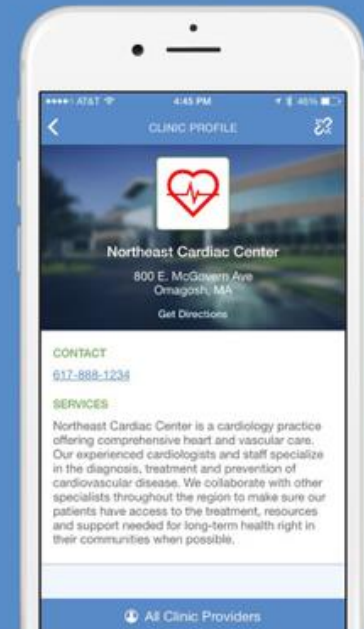
Appointment Calendar

Simply keep track of your appointments.



Clinic Profiles

Beautifully showcase your practice.





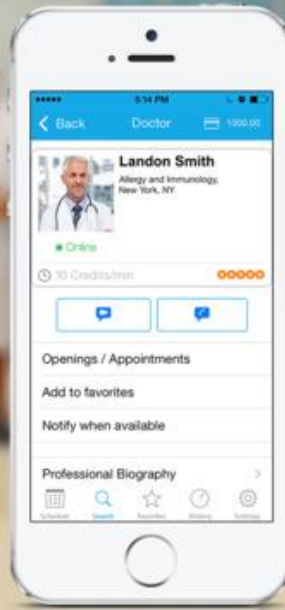
VideoMedicine

- Video chat with doctor or psychologist
 - Specialists and primary care – HIPPA Compliant
 - Per minute charges
 - Prescribing in some states
 - Doctor chooses their rate and hours

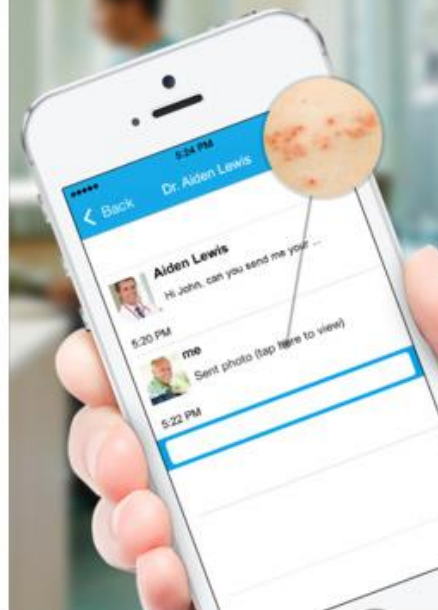
Get help on the go: Video chat with the specialist of your choice and pay by the minute, no more overcharging or flat fees!



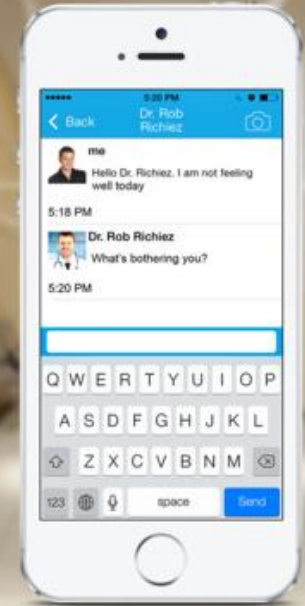
Your time is valuable: Talk with a doctor before waiting days, weeks or even months for an appointment!



Show your doctor exactly what is bothering you by sending high definition photos during your call appointment!



Text message your doctor during your call appointment: This is a great feature for hearing impaired and deaf patients!



Discussion

What Apps or Devices Improve
your Professional Life?