

## Vol 14 No 4 – April 2016

### In This Issue:

- [Wrapping Up 2011-2016:](#)
- [MCR Phone Changes](#)
- [The Changing Face of Resource Sharing Support in the NN/LM](#)
- [Using Data to Improve Clinical Patient Outcomes](#)
- [Whooh Says](#)
- [NLM's History of Medicine Digital Films](#)
- [Community Health Maps Blog](#)
- [Mobile App Experience Project](#)

Print This Issue



### Wrapping Up 2011-2016:

#### What We Accomplished

On April 30, the Spencer S. Eccles Health Sciences Library in collaboration with its Resource Libraries will complete its fifteenth year as the Regional Medical Library for the six state region that includes Missouri, Nebraska, Kansas, Colorado, Wyoming, and Utah. While we are looking forward to the next five as years outlined in our proposal to the National Library of Medicine right now, let's look back at the last five years. During that time, Joplin was flattened by a tornado, the ACA (Obamacare) was upheld by the Supreme Court and enrolled millions of uninsured across the country, Michael Brown was shot in Ferguson and the event triggered a nationwide look at police discrimination and killing, there was an Ebola outbreak and now the effect of the Zika virus is on the rise.

These events either directly or indirectly impacted or have been impacted by access to health information. The Joplin disaster wiped out a hospital and its library. Obamacare brought access to health care to the forefront and empowered more citizens to take charge of their own health. The Ferguson Public Library became a beacon to the community struggling with both loss and outrage. Ebola and Zika sent people to the literature to help understand these diseases. During 2011-2016, the staff at the NN/LM MCR steadily worked to improve health information access to everyone in the region including caregivers, consumers and

researchers.

## Data Collection

Since its inception we have stressed data collection and analysis in order to understand and demonstrate how our work benefits librarians, health professionals and consumers in the region. The NN/LM MCR uses an in-house reporting system that enables coordinators to track and comment on their work. Since May 1, 2011, we have entered 5,479 records into our Activities Reporting System. These records include information about work that was done, who in the Region was involved and whenever possible whether the intended audience found it useful. The data includes the amount of time spent on the activity, totalling 15,948 hours. While this sounds like a lot it is about 20% of the staff's total effort. It does not include travel, meetings, planning, writing, discussions, administrative, and other work that goes into carrying out those 5,479 activities.

Let's start with what we did and who we worked with. Health science librarians throughout the region took advantage of our programs and services. We reached out to community based organizations and to professionals that work in health care. We supported public libraries that are a primary resource for citizens looking for health information. The majority of our efforts fall into a few broad categories. We met with our Network members to monitor what is going on in the region, we exhibited at local, regional and national conferences to increase awareness of and access to the resources of the National Library of Medicine, and we taught and presented both in person and via webinars.

## Meeting with Network Members

Beginning in 2012 we decided that we wanted more contact with our Network members and made a concerted effort to either visit or call our members. Coordinators entered data about 184 substantive conversations they had with Network members within their state. We were looking for that one on one connection that allowed for listening, supporting and sharing thoughts and ideas, problems and solutions. Topics ran the gamut. Here are some examples:

- Welcome into a new position
- Implications and plans when health system libraries are consolidated
- Partnering with organizations in communities,
- Library space increases and decreases
- New building projects that may affect the library
- Handling diverse responsibilities in addition to the library
- Retirements and succession planning
- Restrictions to media on the web
- Ideas for the NLM and NN/LM

## Exhibits

The National Library of Medicine requires exhibiting at local conferences of health related organizations. Each of the eight RMLs is also assigned to represent NLM at one or more large national convention each year. During the past five years we've exhibited at the American College of Sports Medicine, American Academy of Family Physicians, and the National Association of County & City Health Officials as part of our national assignments. We also promote consumer health resources such as MedlinePlus and MedlinePlus en español at local health fairs and even worked the crowd at the Missouri State Fair. The NN/LM MCR had an exhibit presence at 187 events. Coordinators also presented posters, papers, and workshops at many of these events.

## Teaching and Presentations

NN/LM MCR coordinators presented or taught more than 300 sessions during the five year contract with a total synchronous and asynchronous attendance of more than 6,756. These included the monthly *Spotlight on the NLM Resources/Discover NLM and More* webinars, online and in person classes and presentations at both library and health professional organization conferences. In addition the RML offered 10 *Breezing Along with the RML* webinars each year reaching more than 300 people per year. Topics included the many NLM resources, social media, disaster planning, organizational politics, the research lifecycle, consumer health and much more. We always ask attendees to evaluate the session they attended and the vast majority of our classes met the learning objectives of the students. As part of teaching we helped at least eight members (half from this region, half from other regions) achieve MLA Consumer Health Information

Specialization certification.

The NN/LM MCR developed classes for health science librarians about borrowing and lending in DOCLINE, creating and managing DOCLINE routing tables, and entering and maintaining serial holdings records. The online classes were co-taught with coordinators from other regions and attracted a national audience of 1,430 librarians to the 44 sessions over the five years.

### Summary

Our data shows that the NN/LM MCR staff has worked hard and reached a lot of people. To understand our impact, and not just how well our work was received, we need to know what our audiences, Network members, and community based organization partners, did with what they took away from their involvement and participation. What we did, who we did it for or with, and whether those folks found it useful. We are now analyzing our data to tell our impact story. The impact episode will be related in a future issue—stay tuned.

-Claire Hamasu, Associate Director

-Betsy Kelly, Assessment & Evaluation Coordinator




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## MCR Phone Changes

As of May 1, 2016 the NN/LM will no longer have an 800 phone number.

To contact the MCR offices please call 801-587-3412.

You can email us and request that we call you.

You can also call the coordinators directly:

John Bramble Utah/Research Enterprise Coordinator	801-585-5743
Betsy Kelly Assessment & Evaluation Coordinator	801-587-3650
Dana Abbey Colorado/Community Engagement Coordinator	303-724-2110
Alicia Lillich Kansas/Technology Coordinator	913-588-7355
Barb Jones Missouri/Library Engagement Coordinator	573-884-5042
Christian Minter Nebraska/ Education Coordinator	402-559-7226
Annette Parde-Maass Nebraska/Education Coordinator	402-280-4156
Jim Honour Wyoming/Member Services Coordinator	307-766-6537



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## The Changing Face of Resource Sharing Support in the NN/LM

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Beginning May 1, 2016, the NN/LM's user support for DOCLINE, Loansome Doc and other related resource sharing services/activities under the NN/LM 2016 -2021 cooperative agreement will change. The coordination for user support duties will be the responsibility of a new national office – the NN/LM DOCLINE Coordination Office (NDCO.) The NDCO will be hosted by the NN/LM Southeastern/Atlantic Region at the Health Sciences and Human Services Library at the University of Maryland, Baltimore. The purpose of the NDCO is to coordinate all NN/LM resource sharing support and services from one office and under the leadership of a national coordinator.

The most notable and immediate effect this change will have for you is that the each RML will no longer have a designated DOCLINE coordinator in their region. The NDCO will be the contact when you need assistance with DOCLINE. DOCLINE users will still be able to click on the "Contact" link, at the top of their accounts, to ask questions or make comments. Does this new scheme mean that you will no longer be able to ask the NN/LM MCR for help? No, we will still be available. However, depending on the kind of help needed, we may refer you to the NDCO. As the NDCO gets up and running, you will hear more about the office and the services they will provide. We'll update you through the RML news as more details become available.

-Jim Honour, Member Services Coordinator



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## Using Data to Improve Clinical Patient Outcomes

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Twenty five in Salt Lake City, thirty four in Seattle, and eighty sites online all focused on learning more about using patient data from the electronic health record to improve patient safety, quality of care, and evidence based practice. Those numbers reflect the in-person and online participation for the forum. The date was March 7, 2016 and the event was Using Data to Improve Clinical Patient Outcomes, an event organized and sponsored by the NN/LM MidContinental and Pacific Northwest Regions. The objectives of the forum were:

1. Participants will gain increased awareness of the role of data to improve healthcare delivery; and
2. Participants will gain knowledge about emerging uses of clinical data mining to improve evidence-based practice.

Three Network members applied for and received funding to travel to Salt Lake City and be part of the in-person audience. They share their experiences below.

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The morning sessions included presentations by three physicians from different institutions. Each of the speakers currently employ data science in their clinical practice. The first presenter, Dr. Kaelber, discussed three case studies that incorporated patient data. His data research included diagnosing pediatric hypertension, messaging parents on needed immunizations, and controlling diabetes complications. The second presenter, Dr.

### Presenters:

**David Kaelber, MD, PhD, MPH, FAAP, FACP**  
Chief Medical Informatics Officer and Vice-President  
of Health Informatics

Longhurst, focused on bringing big data to the bedside. His research involved inserting tools to generate data within the electronic health record to provide point-of-care information for treating pediatric patients. *Bilitool* (<http://bilitool.org>) is an online calculator for clinicians to assess the risk of jaundice in newborns. He mentioned the need for such tools to be hosted, and curated, a potential role for health sciences libraries. A second innovation mentioned was a 'green button' built into an electronic health record to aggregate like patient data and provide high-quality evidence. The last presenter of the day, Dr. Meo, introduced the use of analytics at the VA. The VA collects large amounts of patient data and recently developed applications to analyze and apply this data to improve patient outcomes. Case studies presented included predicting high-risk patients' chances of hospitalization based on patterns within the electronic health record data.

Director, Center for Health Informatics and Patient Engagement  
Director, Center for Clinical Informatics Research and Education  
The MetroHealth System, Cleveland, OH

**Christopher A. Longhurst, MD, MS**

Chief Information Officer, UC San Diego Health Sciences  
Clinical Professor, Biomedical Informatics and Pediatrics, UC San Diego School of Medicine, San Diego, CA

**Nicholas O. Meo, M.D.**

Physician Lead for Quality and Safety, Hospital and Specialty Medicine, VA Puget Sound  
GME Director of Quality and Safety, Graduate Medical Education, University of Washington, Seattle, WA

During the presentations, it was also noted that most "best practice" guidelines have been based on data, where patients are primarily middle-aged white males. These guidelines may not apply to other demographic cohorts, for example elderly, pediatric or non-white populations. Using data mining from their institution's EHRs, physicians could find information on a cohort of patients they may not see very often in their own practices, or for whom the guidelines might not apply. For example they could limit data to 65-year old Vietnamese females, or 9-year old Black Haitian males, or 80-year old Navajo females. Physicians could then personalize care plans and other parameters for patients individually based on the data from millions of other relevant records in EHRs. Some health disparities for minority populations could be addressed in this way. But even for members of non-minority populations, medical treatments are never "one-size-fits-all." Having access to big data can help make treatments for everyone more focused and efficient. Also, on the diagnostic end, data mining could help a clinician search for patients with a certain set of parameters and then see what the final diagnosis turned out to be.

In the afternoon, the attendees processed and reflected upon the earlier sessions. The attendees began discussing librarians' potential role within the realm of clinical data. Using a think, pair, share model from [Liberating Structures](#), participants considered how they might apply the content presented into their work as health sciences librarians. A majority of the groups brought up the richness of the information presented, specifically the use of electronic health record data to improve clinical decision-making. The forum generated a great deal of enthusiasm from the participants, who raised several possible areas of intersection between the clinical data areas mentioned and existing library relationships and projects. A few obstacles mentioned were the librarian's access to electronic health records and a need for additional professional development in informatics-related areas.

### What's Next?

Our professional development awardees were excited about the opportunity to learn more about this rapidly expanding field of informatics and the role librarians can play. They plan to share what they have learned with their institutions. Julie Hartwell and Heather Collins will meet with Kansas University Medical Center administrators to discuss highlights of this session and apply the take-away to two projects. Julie will be working with the Nursing Research Council from the hospital, which has shown increased interest in new technologies to explore patient data at the bedside. Heather will be working with the Quality and Performance Improvement Areas of the KU Hospital to explore new opportunities. Pamella Asquith's institution, Intermountain Healthcare, is implementing a new EHR system that will make it possible to access and aggregate data across the entire system of 12+ hospitals. Having knowledge and skills in data mining would demonstrate and enhance the value of the hospital library. Because the EHR system is new, there are functionalities that no one has taken ownership of yet. Pamella is looking forward to exploring opportunities for medical librarians to take a leadership role in using the EHR for clinical data mining purposes.

For the online audience, presentations were video broadcast. Chat and Twitter feed discussions were also organized so that online participants could contribute their thoughts on the questions that were being discussed in onsite break out groups.

Recordings of the event, summaries of the online discussions, resources to further explore this topic are available from the web site Using Data to Improve Clinical Patient Outcomes. (<https://nmlm.gov/data-forum>)

*Special thanks to Pamella Asquith, Heather Collins, and Julie Hartwell for contributing to this article.*

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## Whooo Says



*Dear Whooo,*

*I am a hospital librarian with about three years of experience. Our library has two employees; I am the librarian and we have one part-time clerk. I enjoy my work tremendously but have come to realize that I would like to work in a larger library. I find that I enjoy the administrative and promotional side of librarianship much more than I imagined that I would. I also spend lots of time thinking about the library of the future and how I would like to be a part of guiding a library system into that new world.*

*Do you have any ideas or thoughts about how I can further my career?*

*Hoping to hear from you,*

*Looking Ahead*

Dear Looking,

Thanks so much for writing! I'm always pleased to hear from young librarians, and I find your note particularly interesting. After three years in the profession, I'm glad to see that you are considering your interests and looking at career directions. Taking charge of your career and making conscious choices about types of jobs is a big step in achieving your goals. Too many times people allow the future to happen to them rather than being proactive and working to shape their career.

One of the nice things about career planning at your level of experience is that you have so many choices. As the only professional in your library, you already have experience with both technical and public services. You may even have some experience with more specialized services such as clinical librarianship or working with researchers. With experience in all of those areas, you probably have some preferences about which areas appeal to you. This information should help you when you are looking for your next library position, hopefully in a larger library system with more specialized job functions.

In terms of preparing for your next step, I think it is critical to consider the role of continuing education. This can take many forms – continuing education classes at regional and national meetings, formal education



programs (for instance looking into a PhD program or a related Masters degree e.g. MBA or a MS in a science discipline), MOOCs, online tutorials, professional reading, etc. Of course, much of the education you take throughout your career will pertain specifically to some aspect of librarianship. That is to be expected, and is appropriate. However, since you have indicated an interest in administrative functions, I encourage you to look beyond the traditional library offerings into the realm of business and management.

Moving into higher levels and administration takes you out of the environment where the needed skills are solely technical – whether they are searching, acquisitions, teaching or technical services. These skills will always be relevant and the basis of your work, but as a supervisor or manager or even a director you need additional expertise. More and more you will find yourself needing good management skills:

- how to effectively supervise, motivate and evaluate employees,
- how to prepare and justify a budget,
- how to plan and implement long range plans,
- how to handle institutional politics and effectively position your library,
- how to implement an assessment and evaluation plan, etc.

I encourage you to actively look for opportunities to learn more about these topics. Often your NN/LM region will have classes that address these subjects. Perhaps you can attend classes at a local college, university or online from a different school of your choice. Perhaps you can find classes to take at MLA or MCMLA. Perhaps you can find a mentor in a local library group. However you decide to address this need, be intentional. Keep your long range goal in mind at all times and do your best to prepare for your dream job.

Of course, while you are doing all of this, keep your network active. Be sure to get to know as many library professionals as you can. You can learn from them, and they may have suggestions for you – either about difficult situations you are facing, or perhaps new job offerings you may be qualified for. A good network is essential!

Thanks again for your question, Looking. I wish you lots of success in your search for new possibilities. Please keep me in your network, and let me know about your progress.

Sincerely,

*Whooo*



## NLM's History of Medicine Digital Films

The screenshot shows the NLM Digital Collections website interface. At the top, there is a search bar and a menu icon. Below the search bar, there is a 'Refine by:' section with several filters: Collections, Subjects, Authors, Titles, and Formats. The 'Formats' filter is expanded, showing 'Still image' (67669), 'Text' (16750), and 'Moving image' (223). The 'Moving image' option is highlighted with a red box. To the right of the filters, there is a large image of a cartoon character holding a baby, with the caption 'The Public Health Film Goes to War – Overseas and at home during World War 2'. Below the image, there is a description of the Digital Collections resource.

**Refine by:**

- Collections >
- Subjects >
- Authors >
- Titles >
- Formats ▾
  - Still image 67669
  - Text 16750
  - Moving image 223**

**The Public Health Film Goes to War – Overseas and at home during World War 2**

Digital Collections is the National Library of Medicine's free online resource of biomedical books and videos. All of the content in Digital Collections is freely available worldwide and, unless otherwise indicated, in the public domain. Digital Collections provides unique access to NLM's rich resources.

The National Library of Medicine (NLM) has one of the largest history of medicine collections in the world. Included in the collection are films and videos that show the history of medicine, health, disease, and medical research. These films were produced from the early 20<sup>th</sup> century through the present day. There are currently over 200 films available online with more added each month. They are great to use for research and as part of educational curriculum. You can search for films on the Digital Collections website:

<http://collections.nlm.nih.gov/>. Here are a few special curated collections of the digital films to get you started:

### The Public Health Film Goes to War

<https://www.nlm.nih.gov/hmd/digicolls/phfgtw/index.html>



This collection features 18 rare films on public health from the World War II era. Topics include personal hygiene, tropical diseases, sexually transmitted diseases, and the stress of war. The films have written commentaries and a bibliography for further information. There is also a selection of public health posters from World War II.

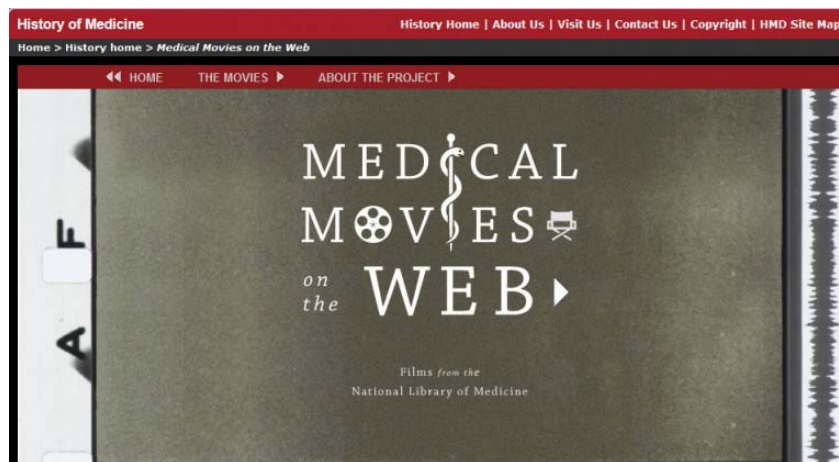
### Tropical Disease Motion Pictures

[http://collections.nlm.nih.gov/?f\[drep2.isMemberOfCollection\]\[\]=DREPTDM](http://collections.nlm.nih.gov/?f[drep2.isMemberOfCollection][]=DREPTDM)

This collection features 46 films that show the medical community's response to tropical disease in Western societies. The films were produced between 1927 and 2007. The types of films include research documentaries, health education campaigns, interviews with scientists, and demonstrations of local and international efforts to combat the impact of the diseases. A subject guide (<https://www.nlm.nih.gov/hmd/collections/films/tropicalguide/index.html>) provides an abstract for each film, a bibliography, and an index to the diseases and locations covered by the films.

### Medical Movies on the Web

<https://www.nlm.nih.gov/hmd/collections/films/medicalmoviesontheweb/index.html>



This portal is a special project that highlights 15 films from NLM's digital collection. Each film has an essay that provides the historical context. Some of the films may also include bibliographies, and links to related materials in other repositories. Topics include dental care, cancer, tuberculosis, sexually transmitted diseases, and more. Currently, the portal includes films from 1918 to the 1950s.



-Christian Minter, Education/Nebraska Coordinator



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## Community Health Maps Blog

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Attention map fans! We are highlighting a blog called Community Health Maps Blog (CHMB) which is part of an initiative from the National Library of Medicine (NLM) in collaboration with the Center for Public Service Communications and Bird's Eye View. This effort is to help share information about easy to use geographic information system mapping applications that are free or have a low cost. The reason NLM began this initiative was to help community based organizations learn how to take the data they collect about their communities and create visualizations of that information. Visualizations can aid in the identification of patterns, which can be helpful in the planning or decision making process. Examples of the type of data being collected that work well with GIS applications are demographic, health stats, and local resources/services, etc.

If you are just getting started in mapping, Community Health Maps is a good place to begin because each post has been well vetted and documented. Plus, because CHMB is a blog, it is easy to use for learning and sharing. Posts are moderated by Kurt Menke, who is a Certified GIS Professional and has been working in the GIS field since 2000. This is a relatively new blog that began in 2014. It is not updated all too often, so followers should not expect their inbox to be inundated.

The most helpful part of the blog is that each post has been categorized by type of tool. For instance, in the Analysis category, users will find information on tools that have strong analysis capabilities. Other categories of interest are device specific (iOS, Android, desktop, etc.) mapping tools, data visualization and dynamic maps apps, and case studies and presentations on mapping tools. Another helpful feature of the blog is the Resources page. There you will find downloadable exercises or labs to be used while learning mapping tools, thus eliminating the need for the learner to come up with their own data. The blog also highlights training and workshop activities, online education and tutorials under the education tag.

The CHMB shares case studies and success stories from those utilizing these types of resources. Blog posts have highlighted:

- GIS tools used to locate and map noise pollution in an urban setting.  
<http://communityhealthmaps.nlm.nih.gov/2014/10/08/noise-pollution-and-health-in-the-urban-environment-a-pilot-project/>
- A mapping program that equipped children with mobile devices in order to monitor areas lacking access to water, electricity, and healthcare.  
<http://communityhealthmaps.nlm.nih.gov/2014/11/13/technology-youth-change/>
- Teens mapping environmental health factors in their community.  
<http://communityhealthmaps.nlm.nih.gov/2015/07/06/teens-map-environmental-health-of-their-community-sea-islands-south-carolina/>

For those who are new to mapping or would simply like to learn more about this topic, we recommend checking the Community Health Maps blog out. You can find more information about this resource here: <http://communityhealthmaps.nlm.nih.gov/about/>

-John Bramble, Utah/Technology Coordinator

-Alicia Lillich, Kansas/Technology Coordinator



# Mobile App Experience Project

## 3rd Quarter Reviews

Another few months have passed and it is time to share our 3<sup>rd</sup> Quarter mobile app reviews. Our 19 participants spent time evaluating the 18 apps listed below. These apps can help you create or review flashcards, learn and view detailed images of the human heart, duplicate your computer screen onto your iPad, or take some time out of your busy day to practice meditation.

The summaries below give you a quick overview of each app. Look them over and you may find one that works for you or someone in your audience. To learn the context of this project plus previous app reviews, you can click on the links below.

Please note that the app evaluations submitted by the project participants are theirs alone and are not the evaluation of the National Network of Libraries of Medicine.

-Alicia Lillich, Kansas/Technology Coordinator

### Previous Year 2 Reviews:

[Quarter 1 Reviews](#)

[Quarter 2 Reviews](#)

### Rank – Excellent:



[AnkiMobile](#) | iOS, Android, Web | \$24.99 plus tax (note: the web version is open source and free to use; author charges for iOS version to support project development.)

USER TYPE: All learners where topic can be broken down into flashcards: vocabulary, facts, formulae, etc. I reviewed this for its usefulness to health professions students.

ABOUT: "Anki is a program which makes remembering things easy. Because it's a lot more efficient than traditional study methods, you can either greatly decrease your time spent studying, or greatly increase the the amount you learn." The program supports images, audio, videos, and scientific markup.

APP CRED: Damien Elmes is the primary creator of Anki

CONTENT CRED: N/A

NOTES: This mobile app supplements the desktop program, enabling mobile-based learning. Learners don't have to use this mobile app – they can use the free web version on their smart phones to access the card decks created on their desktop. The user interface is well-organized and easy to understand. App is easy to use. Video tutorials exist to help learners get started in creating their card decks.



[Duet Display](#) | iOS, web | \$7.99

USER TYPE: Anyone

ABOUT: Use this app to make your iPad or iPhone an additional monitor for your computer.

APP CRED: Kairos Technologies, Inc.

CONTENT CRED: N/A

NOTES: Really cool app to help increase productivity by adding an additional computer monitor. Works across platforms and is easy to install. This app allows an iPad or iPhone to plug in to a Mac or PC computer and act as an additional monitor. Cuts cost and space usage if the user already has an iPad or iPhone.



[The Mindfulness App](#) | iOS, Android, Windows phone | \$2.99 with in-app purchases |

Content Current: 2016

USER TYPE: Laypersons

ABOUT: The Mindfulness App helps you to reduce stress and increase wellbeing. Scientific research proves that regular practice for 20 minutes a day brings desired effects. The Mindfulness App can be used by everyone, both beginners and experienced practitioners of meditation and mindfulness. It is easy to use. You can choose between different types of guided meditations, or meditate in silence.

APP CRED: The MindApps staff.

CONTENT CRED: The main meditation guide is Catherine Polan Orzech. She teaches Mindfulness-Based Stress Reduction at Thomas Jefferson University Hospital in Philadelphia. Purchased guided meditations are led by well-known leaders.

NOTES: This is an accessible introduction to mindfulness meditation. It includes everything you need to start building the benefits of meditation into your daily life. Those experienced in meditation will appreciate the world-class expertise represented in the in-app purchases.



[Patient Education Bundle \(Heart\)](#) | iOS, MAC | \$9.99 | Content Current: Unknown

USER TYPE: Health Professionals, Medical Students

ABOUT: A selection of 3D animations describing conditions, treatments and options

APP CRED: 3d4 Medical

CONTENT CRED: Physicians and animators.

NOTES: This is the coolest application I have seen in sometime. There are three bundles; heart, orthopedics and spine. The videos are outstanding. There are pages that can be turned into PDF formatted documents and printed off for students and patients. The physician or medical student can draw on the diagrams, showing patients exact items. Physicians can use it in teaching students.



[Prognosis: Your Diagnosis](#) | iOS, Android | free | Content Current: 2015

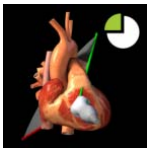
USER TYPE: Health Professionals, Physicians, Medical Students

ABOUT: Over 600 case scenarios across 30 specialties. Test your diagnostic ability with simulated clinical cases. Each case has a short, but in-depth analysis of the diagnostic process, followed by an up to date discussion on the specific condition.

APP CRED: Medical Joyworks, LLC

CONTENT CRED: All of the case scenarios are reviewed by an editorial board of 140+ specialist physicians from around the world.

NOTES: The cases are organized into different specialties such as medicine, surgery, gyn & OB, and pediatrics. Each section then contains a huge variety of case scenarios which are updated on a continual basis. You can sign up for email updates when new cases are added that match a specialty of yours or a special interest. This app is available in both English and Spanish. You can also login using your Facebook or Google+ account so you can continue using the app on any device because it will save your progress. I think its an excellent resource for medical students and can be used as a clinical refresher for physicians who want to keep their diagnostic skills in order.



[Transesophageal Echocardiography \(TEE\): Colour Doppler](#) | iOS, web | \$4.99 | Content Current: 2014

USER TYPE: The app is primarily for cardiac sonographers or students but might also be useful to any healthcare professional who needs to read such images.

ABOUT: The app provides 20 standard views of structures in the heart during a 2D examination. Each standard view includes a 3-dimensional heart model showing where in the heart that view occurs. In addition to the 3-dimensional heart, each standard view includes a video clip showing both 2-dimensional and color Doppler images.

APP CRED: University Health Network

CONTENT CRED: App contributors listed include Dr. Angela Jerath (Cardiac Anesthesia Fellow), Dr. Annette Vegas (Staff Anesthesiologist), and Michael Corrin (Programming & Design). All contributors are from Toronto General Hospital's Department of Anesthesia and Pain Management.

NOTES: The app has a table of contents on the side of the screen listing the 20 included standard views. This is the only means of navigating the app.

### Rank – Very Good:



[Encyclopedia of Alternative Medicine](#) | iOS | \$3.99 | Content Current: 2014

USER TYPE: Health professionals, Laypersons

ABOUT: This app is a one-stop source for alternative medical information that covers complementary therapies, herbs and remedies, and common medical diseases and conditions. It avoids medical jargon, making it easier for the layperson to use.

APP CRED: Sun Dragon Egg, LLC

CONTENT CRED: Unknown

NOTES: Requires iOS 7.0 or later. Compatible with iPhone, iPad, and iPod touch. This resource uses medical terminology, which adds value for the health professional. However, the information lacks the detailed information which might be needed by a care giver. Information is provided in small doses (Description; Precautions; Side Effects; Treatments; et al). The illustrations add visual value for the consumer.



[Evernote](#) | iOS | Free, but offers in app purchases

USER TYPE: Anyone

ABOUT: "...gets you effortlessly organized with notes that sync between all your devices."

APP CRED: Evernote corporation

CONTENT CRED: N/A

NOTES: Evernote has the unique feature of creating notebooks used to organize your notes. So, you could have a work, personal, or health, etc. notebook and file any notes under those books. For example, "submit MCR grant app" would go under work. You can also share your notebook, which makes it ideal for committee and project work. You can share via email or by creating networks within the app. A really cool feature is the ability to dictate your notes or use a 'scratchpad' to hand write notes. You can set reminders as well. This is one of the easiest, most intuitive organizational and productivity apps I've ever used.



[Flashcards Deluxe](#) | iOS, Android | \$3.99

USER TYPE: Students

ABOUT: This is an app that allows you to review flashcards for the purpose of studying or reviewing new content. Users can download pre-made flashcard decks from sites like Quizlet.com, or can create their own cards within the app.

APP CRED: OrangeorApple.com

CONTENT CRED: There could potentially be some concerns about the accuracy of the content of flashcard sets downloaded from other sites (Quizlet.com, etc.). Users would need to proceed with caution before relying too heavily on a flashcard set made by unknown content developers.

NOTES: It is fairly easy to organize flashcard decks by title or subject. It took some trial and error to find out how to make a set of flashcards within the app itself, but the user instructions from the publisher's web site were useful. Users can search across decks to find cards they would like to review. It is also fairly simple to add cards from separate decks to create new custom decks. There are some nice features built into this app, including text-to-speech capabilities, and a speed quiz mode. Users can also download/upload deck content from Dropbox and Google Drive.



[GoScholar](#) | iOS | \$4.99

USER TYPE: Reseachers, Students, Faculty

ABOUT: GoScholar has been innovated over two years with numerous changes to create an effective tool for students, lectures and researchers. GoScholar is proud to be one of the best tools for doing references on mobile.

APP CRED: Truong Hoang

CONTENT CRED: N/A

NOTES: The app is separated into three parts: article searches (with database filters); Case law (similar to Google Scholar's filter); and My Library (saved citations). I really like this app. It provides a great alternative to desktop searching. You can browse PubMed, EBSCO, ProQuest, filter by year, and file type, advanced search options, ability to save, download, cite, write, etc. Users might have issues connecting library holdings to app.



[MedCalc – The Professional Medical Calculator](#) | iOS | Free, but for \$4.99 you can unlock the entire contents. | Content Current: 2015

USER TYPE: Health Professionals

ABOUT: MedCalc is a medical calculator for iOS that gives you easy access to complicated medical formulas, scores, scales, and classifications.

APP CRED: MedCalc

CONTENT CRED: Pascal Pfiffner and Mathias Tschopp – The web site identifies them as medical doctors but no additional information is provided. Once you open a formula or score, there is an infobutton available. Clicking it provides you with a description of the formula/score and a reference, including a link to PubMed if applicable.

NOTES: You can find formulas by typing their names or related keywords into a search box, or you can browse a list of formulas in alphabetical order or by category. Categories include cardiology, electrolytes, evidence-based medicine, oncology, pediatrics, and trauma. You can also add formulas to a favorites list. Formula results can be printed or emailed. Personal notes can be added to formulas. Another nice feature is that a number pad appears on-screen when you click inside a formula box. It also allows you to switch between units (such as pounds vs. kilograms) when entering values for a formula. Both the app and the web site provide access to a knowledge base with FAQs. Users can provide feedback and, if they wish, suggest a new formula to include.



[Pediatric Quiz Game](#) | iOS | Free (with in game purchases to play more than one question)

USER TYPE: Pediatric residents, Family medicine residents, and medical students

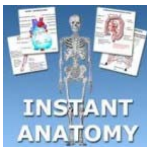
ABOUT: This app has 540 questions. The app contains multiple games. Each game includes multiple questions and answers that range from easy to difficult. The questions cover all specialties in pediatrics. The questions cover theoretical and practical knowledge and problem solving. The app can be utilized for big groups, small groups, pairs, and by single individuals with ease in attaining benefits.

APP CRED: Outaibah Alotaibi

CONTENT CRED: Unkown

NOTES: It's cute and colorful. I think the questions are wordy. I think it would be a great teaching tool used with a group. You can choose which games to play by buying them, I didn't find a place where it's searchable.

### Rank – Fairly Good:



[Instant Anatomy Flash Cards](#) | iOS, Android, Web | \$4.99 | Content Current: 2015

USER TYPE: Health Professionals, Nursing & Medical Students

ABOUT: This application contains 560 diagrams or flash cards covering most aspects of human anatomy, perfect for medical and nursing students as a quick reference.

APP CRED: Instant Anatomy

CONTENT CRED: Robert Whitaker, a pediatric urological surgeon. He teaches anatomy to first year medical students at Cambridge University in the UK.

NOTES: Because it is a British source, it uses British spellings. It doesn't have an entry for the brain, but it does have the cranial nervous system outlined. The index is odd – it's not alphabetical, but is arranged more or less by regions of the body. I wouldn't call it a flashcard – it's more like your lecture notes had you sat through an anatomy class with the author. This app might be handy to use for short moments of study – while commuting on train or buses. Because it isn't truly a flashcard format – now you see the answers, now you don't – I think it is misnamed. The text that accompanies each anatomical diagram is concise and useful – that's a plus. I didn't download other flashcard anatomy apps to compare it to, but for cost, this app isn't so bad. It's a very basic resource, but it doesn't take up too much space or device resources to run. The images and diagrams can be enlarged by swiping.



[Medical Microbiology](#) | iOS | \$4.00 | Content Current: 2014

USER TYPE: Medical/Nursing and other Health Sciences Students

ABOUT: Medical Microbiology provides key information about viruses, bacteria and fungi that cause human disease. Medical students, nursing students and other health sciences students will find the app very helpful and easy to use. Organisms are arranged alphabetically within each category (virus, bacteria or fungi). They are also listed by the infections they cause in organ systems. Most entries also have a link to the the CDC web site, where you can learn more about each organism and its associated infections. Several tutorials provide a rapid overview of basic concepts in microbiology.

APP CRED: Driftwood Consulting Ltd.



CONTENT CRED: Medical Microbiology was developed by four experts in the field: a medical microbiologist, a virologist, an infectious disease specialist, and a pathologist.  
 NOTES: Nice, simple search format. The skeleton of the app is well made, but it lacks references and comprehensiveness. If the information you want is there, it's probably good. It's mostly bulleted list of facts about organisms, grouped into bacteria, viruses and fungi. Not 100% comprehensive.



[Osteopathic Medicine pocketcards](#) | iOS | \$4.99 | Content Current: 2015

USER TYPE: DO Physicians, Osteopathic Medical Students

ABOUT: Reference tool for the osteopathic community. Osteopathic students can use this app as a reference tool while on rotations, studying for examinations, or while seeing patients. Attending physicians and residents can use this app in their office or on the inpatient wards while seeing patients. You can bookmark important pages, add extra notes. Get to the right entry directly and quickly with the 'full text search'.

APP CRED: Börm Bruckmeier Publishing LLC, Munich Germany, founded by two physicians in 1992, they specialize in producing pocket cards for other specialties

CONTENT CRED: Carl R. Hoegerl, Msc, DOHe is an osteopathic physician at Liberty University Osteopathic College of Medicine, Lynchburg, VA. Chair and Assistant Professor of Neurology in the Department of Internal Medicine. Much of the information is based on the knowledge of Dr. Hoegerl. It does state that the information in the app is based on sources believed to be reliable, but then has a general disclaimer about the information. It also encourages the reader to consult other references, implying that the information is not complete.

NOTES: Students are always asking for osteopathic study apps and that is why I picked this one to evaluate. I think it is a good resource for basic osteopathic review and am glad to see it available at a small cost. There are a lot of images in the topics, and it could use some digital updating like many of the anatomy apps have, such as 3D images and linking to textbook information. But as a pocketcard resource, it is a good app.



[palmEM](#) | iOS, Android | \$9.99 | Content Current: 2015

USER TYPE: Health Professional

ABOUT: palmEM is the leading emergency medicine quick reference. Trusted by tens of thousands of users, palmEM is the featured emergency medicine reference by Apple.

APP CRED: palmEM Worldwide LLC

CONTENT CRED: The app is continually updated and expanded.

### Rank – Mildly Good:



[Fooducate](#) | iOS, Android, web | Free (offers in-app purchases) | Content Current: 2016

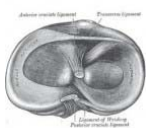
USER TYPE: Laypersons

ABOUT: Lose weight with REAL food, track your progress, and get motivated.

APP CRED: Prof. Adam Drewnowski, Dir. of Epidemiology, Nutritional Sciences Program, University of Washington, School of Public Health; Dr. Lisa Sutherland, PhD in public health nutrition, University of North Carolina at Chapel Hill; Dr. Yoni Freedhoff, Medical Director, Bariatric Medical Institute, Ottawa, Canada.

CONTENT CRED: Not clear as to peer review, EX, "Our grading algorithms have been developed by nutrition professionals and dietitians." Disclaimer says, "Fooducate is NOT affiliated with food manufacturers, supplement companies, diets, or any sort of magic pill."

NOTES: Fooducate uses crowd sourcing and tagging by the users.



[SportsMed](#) | iOS, Android | \$2.49 | Content Current: 2015

USER TYPE: Any health professional involved in sports.

ABOUT: "SportsMed presents up to date information in the form of abstracts related to sports medicine, orthopedics and injury from a range of sources including Orthopedic Specialty Peer-Reviewed Journals and Web based media reports."

APP CRED: Hand Fed Apps

CONTENT CRED: Abstracts from peer-reviewed journals



NOTES: Information is organized by source journal or by specific body part. This app has limited use but for the cheap price I am willing to rate it mildly instead of not good at all though I waffled on the decision. The abstracts provided from the individual journals seem to be reasonably presented and up to date. However the section of the app that divides the information by body part such as knee, ankle, shoulder, etc. seems to be perpetually broken, giving the message "Aw Snap, There is something wrong with this feed." I was very disappointed and will not be recommending it to my Sports Medicine faculty, fellows, and residents though I might use it occasionally to provide suggestions for Sports Med Journal Club.

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