How the National Library of Medicine Can Add Evidence To Your mHealth App

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How the National Library of Medicine (NLM) Resources Can Add Evidence to Your Mobile Health App

Presented by National Network of Libraries of Medicine & UConn Center for mHealth and Social Media
About your Webinar Hosts

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Many commercial health apps lack evidence-based strategies

- Physical activity (Modave et al 2015, Conroy et al 2014)
- Arthritis (Geuens et al 2016)
- Stress management (Coulon et al 2016)
- Eating disorders (Juarascio et al 2015)
- Smoking cessation (Jacobs et al 2014)
- HIV prevention (Muessig et al 2013)
Ways to incorporate evidence into apps

Have app deliver an evidence-based behavior change strategy

- Self-monitoring is most popular example employed by apps
- Michie's behavior change taxonomy includes numerous behavioral strategies
- Evidence-based protocols available for many behavioral issues

Have app provide user with evidence-based health information

- Big question is: what is an evidence-based resource? Is it vetted? Up-to-date?
Purpose of Today’s Webinar

• Introduce you to NLM and the FREE Health & Medical websites databases and tools. Why are NLM resources better than commercial websites such as WebMd?

• Demonstrate how NLM resources carry out the mission to improve public health.

• Provide examples of how these health related resources can add value to your app
What Makes a Resource Good?

Ease of Use
Links to Original Articles
Freedom from Advertisements
Evidence, Not Expert Opinion
Ease of Access
Disclosure of Conflict of Interest
About National Library of Medicine (NLM)

Physical library is Bethesda, MD part of the NIH campus.

Largest biomedical library in the world

One of the federal government’s largest providers of digital content

The library is open to everyone

NLMs mission
Advance the progress of medicine and improve public health by making biomedical information accessible to everyone.
NLM Carries Out its Mission Through National Network of Libraries of Medicine (NNLM)

- Nationwide network of health sciences libraries, public libraries & information centers
- Each region has a partnership with a regional medical library
- Outreach provided through
  - Free access to online resources
  - Training & PD
  - Grant funding opportunities
NLM Resources you know…


https://medlineplus.gov/
NLM Partners
Partners in Information Access for the Public Health Workforce [https://phpartners.org/](https://phpartners.org/)
Why Use NLM Resources?

What is the AD?

What is the information you were looking for?
Why Use NLM Resources?
Evidence Based Information at Your Fingertips

MedlinePlus Connect

Linking Patient Portals and EHRs to Consumer Health Information

MedlinePlus Connect helps patients and health care providers access consumer health information at the point of need in a health IT system. Patient portals, patient health record (PHR) systems, and electronic health record (EHR) systems can use MedlinePlus Connect to provide health information for patients, families, and healthcare providers using standard clinical vocabularies for diagnoses (problem codes), medications, and lab tests.

MedlinePlus Connect is a free service of the National Library of Medicine (NLM), National Institutes of Health (NIH), and the Department of Health and Human Services (HHS).

MedlinePlus API is available as a Web application or a Web service.
DailyMed

Search for Adderall in DailyMed
Pillbox

How Does NLM Select Partner Sites/Organizations?

NLM Trending Health Topics Infographic

Link to NLM Home Page

bit.ly/NLMtrendingtopicsinfographic
NLM Nutrition Related Resources

https://medlineplus.gov/nutrition.html
PHPartners Nutrition Related Resources

Nutrition

Access to Public Benefits among Dual Eligible Seniors Reduces Risk of Nursing Home and Hospital Admission and Costs (August 2017) - 06-SEP-2017
Researchers studied the impact of access to food and energy assistance on healthcare utilization among all community-dwelling seniors (age 65+) in Maryland who received both Medicare and Medicaid. (University of Maryland)

Bills to School Meal Nutrition Threatening Health: Public Health Regulations Under Fire - 01-SEP-2017
On May 1, U.S. Secretary of Agriculture Sonny Perdue announced that USDA would relax school nutrition requirements related to whole grains, sodium and milk. Under the new rules, schools are only required to make 50 percent of their grain products whole-grain rich, as opposed to 100 percent for the 2017-18 school year. Schools are exempt from achieving the highest sodium targets from school years 2017-18 through 2020, and schools are allowed to serve flavored milk. (The Nation’s Health)

A Community-Based Marketing Campaign at Farmers Markets to Encourage Fruit and Vegetable Purchases in Rural Counties With High Rates of Obesity, Kentucky 2015-2016 - 01-SEP-2017
Researchers conducted a community-based marketing campaign, Plate It Up Kentucky Proud (PIUKP), in 6 rural communities over 2 years to determine the association between exposure to the campaign and fruit and vegetable purchases, adjusted for Supplemental Nutrition Assistance Program (SNAP) recipient status. (Centers for Disease Control and Prevention (CDC), HHS)

Study evaluates the effectiveness of the National Early Care and Education Learning Collaboratives project in facilitating best practices in nutrition, physical activity, screen time, and infant feeding among early care and education programs.

The Food-Spending Patterns of Households Participating in the Supplemental Nutrition Assistance Program: Findings From USDA’s FoodAPS (August 2017) - 21-AUG-2017
This study finds that, when adjusted for household size and composition, average food spending in SNAP households is lower than in other U.S. households, even those that are eligible for SNAP but choose not to participate. Food-at-home spending accounts for a greater share of the total food expenditures of SNAP households than of other households. (Agricultural Research Service (ARS), USDA)

Associations and Organizations

Federal
CDC Division of Nutrition, Physical Activity and Obesity
The mission of CDC's Division of Nutrition, Physical Activity and Obesity is to lead strategic public health efforts to prevent and control obesity, chronic disease, and other health conditions through regular physical activity and good nutrition. (Centers for Disease Control and Prevention (CDC), HHS)

FDA Food Safety
Food safety resources from the FDA. (U.S. Food & Drug Administration (FDA), HHS)

Food and Nutrition Service (FNS)
FNS increases food security and reduces hunger in partnership with cooperating organizations by providing children and low-income people access to food, a healthy diet, and nutrition education in a manner that supports American agriculture and enhances public confidence. (U.S. Department of Agriculture (USDA), HHS)

https://phpartners.org/
MedlinePlus offers information in multiple languages.

MedlinePlus also has a quarterly magazine available online and in print.

MedlinePlus also allows you to choose to search on External Health Links to locate info from external organizations (that have been vetted by NLM).

For example,

* American College of Obstetricians and Gynecologists
* National Center for Health Statistics
* National Multiple Sclerosis Society

https://medlineplus.gov/
Gallery of NLM Mobile Apps

Biomedical Literature

PubMed Mobile
Mobile website: https://pubmed.ncbi.nlm.nih.gov/pubmed/
Database of more than 23 million citations for biomedical literature from MEDLINE, life science journals, and online books.

PubMed for Handhelds (PubMed4Hh)
Mobile website and app for Android and iOS: https://pubmed4hh.nlm.nih.gov/ Unique PubMed tools, including PICO (clinical queries), a MEDLINE (medical language search), and Consensus Abstracts.

HIV/AIDS Guidelines

AIDSinfo
Mobile-optimized website: https://aidsinfo.nih.gov/
Federally approved HIV/AIDS medical practice guidelines, HIV treatment and prevention clinical trials, and research.

AIDSinfo HIV/AIDS Drug Database
Mobile app for Android and iOS: https://aidsinfo.nih.gov/apps/
Information about drugs approved to treat HIV infection and other infections or diseases common to people living with HIV.

AIDSinfo HIV/AIDS Glossary
Mobile app for Android and iOS: https://aidsinfo.nih.gov/apps/
Definitions for HIV/AIDS-related terms, written in concise and easy-to-understand language, in both English and Spanish.

Public Health

PHPartners (Partners in Information Access for the Public Health Workforce)
Mobile-optimized website: https://cpapartners.org/
Provides timely, convenient access to selected public health resources, including data, tools, and statistics.

Drugs and Medical Devices

Drug Information Portal Mobile
Mobile website: https://druginfo.nlm.nih.gov/drugportal/ Gateway to drug information from US Government agencies including NBI, FDA, and CDC.

DailyMed
Mobile-optimized website: https://dailymed.nlm.nih.gov/
Comprehensive resource of medication content and labeling found in FDA label information.

LactMed
Mobile app for Android and iOS: https://lactmed.nlm.nih.gov/ Information about maternal and infant drugs and dietary supplement levels, effects on lactation and on breastfed infants, and alternative drugs to consider.

Pillbox
Mobile app for iOS: https://itunes.apple.com/app/id4892594923 Identify unknown prescription, over-the-counter, herbopathic, and veterinary medications.

AccessGUUD (Global Unique Device Identification Database)
Mobile-optimized website: https://comediguid.nlm.nih.gov/
Key device identification information about medical devices that have Unique Device Identifiers (UDIs).

Toxicology

Haz-Map
Mobile-optimized website: https://hazmap.nlm.nih.gov/
Occupational health database of information about the adverse effects of workplace exposures to chemical and biological agents.

TOXNET Mobile

Consumer Health

MedlinePlus
Mobile-optimized website: https://medlineplus.gov/
Covers diseases, conditions, medications, wellness topics, and the latest news, in both English and Spanish.

Educational

Digital Collections

Embro
Mobile app for iOS: https://itunes.apple.com/app/id4423317684 Explore human embryo development through videos, micrographs, images, interactive tools, and related resources.

Native Voices
Mobile app for iOS and Android: https://itunes.apple.com/app/id527328908 Explore the interconnectedness of wellness, illness, and cultural life for Native Americans, Alaska Natives, and Native Hawaiians.

TOXivaders
Mobile app for iOS: https://itunes.apple.com/app/id497776185 Game that supports middle school science concepts about environment and health.

Turning the Pages
Mobile app for iPad: https://itunes.apple.com/app/id4952593194 Virtually flip through rare books and manuscripts and learn more about them through historian and curator annotations.
Examples of Mobile app Use
Aidsinfo, LactMed
Promotional Items & Printable Handouts

NLM Also Provides Grant Funding Opportunities

- **Community Engagement (up to $10,000)** - short-term outreach projects to advance health information resources in collaboration with community groups.

- **Knowledge and Data Management (up to $10,000)** - projects that support innovations in data management and research services at the health care or research institution.

- **Member Programs (up to $5,000)** - Projects & programs that improve the knowledge and skills of librarians & health information professionals.

- **Technology (up to $7,000)** - Improve technology access and delivery of health information for network members.
Example of mHealth Project
MedlinePlus and LactMed for Patient Education

https://vimeo.com/217207971
Using NLM Resources
A Win/Win
For mHealth Developers & Users
National Network of Libraries of Medicine

NNLM has about 6800 Network Members

Anyone can join the network, it’s FREE

To Join the NNLM Network:
https://nnlm.gov/members/join-network
Benefits of NNLM Membership
How Will Use NLM Resources in Your mHealth App?

For more information about how to incorporate MedlinePlus in your application development

https://medlineplus.gov/fordevelopers.html

Please share your ideas, comments, and questions in the Chat Box
Thank you for Attending this Webinar!

Webinar Evaluation Link
http://www.surveygizmo.com/s3/3529624/47e6102b9be5

For more information about how you can benefit from NNLM NER outreach contact Susan Halpin, Education & Outreach Coordinator susan.halpin@umassmed.edu

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