



Public Health in the Palm of Your Hand



 Digital Government: Government to Citizen

 Arizona

 Teresa Jue Teresa.jue@azdhs.gov
602-364-0151

 Project initiation date: September 2016

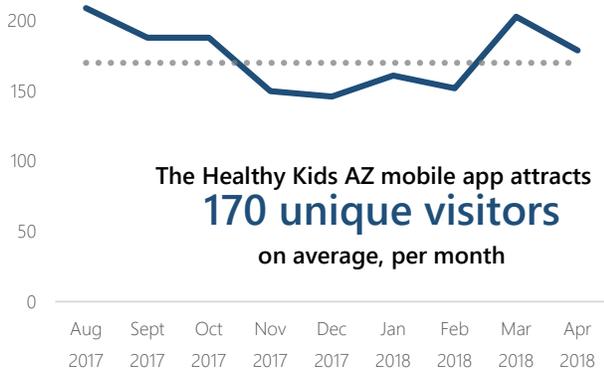
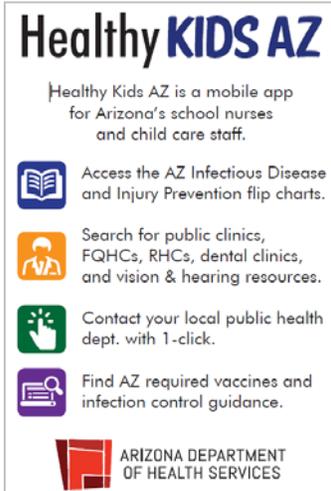
 Project end date: July 2017

EXECUTIVE SUMMARY

Millions of apps exist within app stores and thousands of new apps introduced each day. Apps in the medical category account for approximately 2% of total apps available; however apps are becoming increasingly present in the medical fields and are associated with better patient outcomes because providers have access to reference documents and additional clinical support. Mobile apps have been an untapped channel of communication for state public health organizations, with most available apps designed for the general public, not healthcare providers or those who work with specific populations.

The Arizona Department of Health Services (ADHS), Bureau of Epidemiology and Disease control, launched a new mobile application in July 2017. [Healthy Kids AZ \(HKAZ\)](#) is an all-in-one resource for Arizona's school nurses and childcare staff. The free mobile app provides users with up-to-date and vetted content on a broad range of topic areas significant to school nurses and childcare staff with recommendations to ensure the health and safety of Arizona's student population.

ADHS partnered with mobile app vendor, Mobile Roadie, to create the HKAZ app through a build-your-own app software platform. ADHS staff add or update content in real-time, send out push notifications to alert users of urgent public health news and recommendations, and view data about app downloads and usage through a provided content management system. In its initial phases, content was determined after garnering feedback from the targeted user group, school nurses, through electronic surveys and conducted focus groups. After implementation, content is reviewed and updated on a monthly basis, ensuring that users have up to date information and resources.



Healthy Kids AZ is available for **FREE** download on multiple platforms.



Initial outreach to potential users was provided through the creation of app brochures, a simple webpage within the ADHS website, and the production of portable power banks with the app logo. Demos and presentations at state and local public health organization hosted events were provided to encourage the download and use of HKAZ.

Since its launch, HKAZ has provided over 1000 users with up-to-date and vetted resources, with an average of 170 unique visitors per month. ADHS has strengthened its capacity to quickly and directly communicate with healthcare providers with more than 40% of users opting to receive push notifications from ADHS.

CONCEPT

Why apps?



Over 2 million apps are available in the Apple App Store and Google Play and over 1000 new apps are added on a daily basis. Apps in the medical category account for approximately 2% of total apps available in the Apple App Store; however apps are becoming increasingly present in the medical fields and are associated with better patient outcomes because providers have access to references and additional clinical decision support. Public health is behind in the mobile app realm, especially state specific apps, with most available apps designed for the general public, not healthcare providers or those who work with specific populations.

Why school nurses?



In Arizona, school nurses and childcare staff play an important role in public health and are on the front line of notifying public health of possible outbreaks. We also know that these individuals are dealing with a wide range of situations in schools from bloody noses to managing chronic illnesses to checking vaccination histories. The goal of Healthy Kids AZ was to provide a one-stop shop for information on infectious diseases they may encounter as well as other school health issues such as injuries and emergencies.

Finding out the needs of the school nurses and childcare staff



Several focus groups and surveys were completed with school nurses to see what their needs were and what they would like to see in a school nurse based app. Various topics were discussed including layout, content, future usage, and barriers to use. The participants wanted evidence-based information as well as access to printable material that they could share outside of the app.

Creation of the HKAZ APP

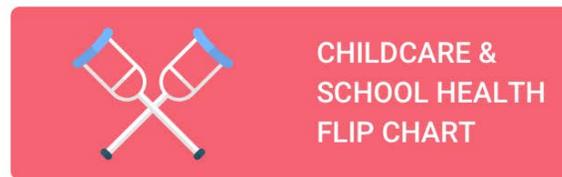
HKAZ App Sections

Both the infectious disease flip chart and the childcare and school health flip chart were preexisting documents that ADHS had created specifically for school nurse use.

- The Office of Infectious Disease Services updated the content in the infectious disease flip chart using information from CDC and American Academy of Pediatrics
- There are 45 diseases included in the app and each sections includes information on:
 - Symptoms
 - Incubation and contagious periods
 - Recommended actions
 - Transmission
 - Resources

- The Office of Injury Prevention along with School Nurses Organization of Arizona (SNOA), Arizona Department of Education, ADHS Office for Children with Special Health Care Needs, and Emergency Medical Services for Children Program updated the content in the childcare and school health flip chart.

- There are 34 situations that are included in the app and each section includes an algorithm.
- Each algorithm has a starting point and a series of questions that moves the user through the algorithm until an action is reached.
- Some sections are connected and linked within the app.



- The Arizona Immunizations Program Office reviewed the content for the vaccine information section.
- This section includes sections information for adults, early childhood, K-12, and college-aged kids.
- Resources for required forms for school, binational immunizations and school immunizations flow charts are all contained in this section.

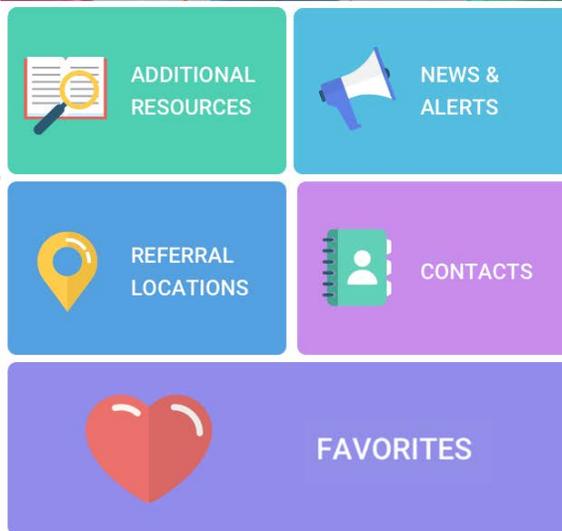
- The Healthcare-Associated Infections group reviewed the content for the preventing infections section.

- This section includes information on:
 - Bagging
 - Bleach and water solutions
 - Cleaning/sanitizing/disinfecting
 - Diapering
 - Gloves
 - Handwashing
 - Laundry
 - Pets & animals

- Content included in the additional resources sections are:
 - AZ Disease reporting requirements
 - Medical Home Care Coordination Manual
 - Food Allergies resource guide
 - BMI calculator



- This section includes feeds from the AZ Emergency Information Network.
- The News & Alerts section will also include articles about current disease trends, outbreaks, and public health recommendations.



- There are four different categories of referral locations including:
 - Dental clinics
 - Vision and hearing resources
 - Regional Behavioral Health
 - Primary Care

- There are two types of contacts in the HKAZ app:
 - Emergency contacts
 - Health Departments

- These are then further broken down by county and are viewable using the map functionality within the app.

- The emergency contacts include Arizona Child Abuse Hotline, Arizona Teen Lifeline, Childhelp National Child Abuse Hotline, National Suicide Prevention Lifeline, Poison Control Center, and the National Domestic Violence Hotline.

The favorites section allows each user to save specific pages that are used more frequently in their day to day so they can quickly access those pages, when needed.



For users who enable push notifications, up-to-date alerts about current infectious disease outbreaks and public health recommendations are sent directly to their devices.

SIGNIFICANCE

School nurses are a very important piece of public health and on more than one occasion have been the reason that public health is made aware of an outbreak happening in a particular community. The need for school nurses and childcare staff to have easy access to well-vetted accurate resources is very important.

This need for evidence-based information that was easily available was self-identified by school nurses and childcare staff which made the buy-in for the creation of the app easy to achieve. ADHS used electronic surveys and target user focus groups to help direct the content for the Healthy Kids AZ app.

This app has helped increase communication between ADHS and the school nurses and childcare staff. The push notifications are a unique way for ADHS to provide information to this population without additional steps or requirements. These messages go directly to the users' device; if a user would like more details, they can simply tap on the push notification to open the HKAZ mobile app and view the associated content.

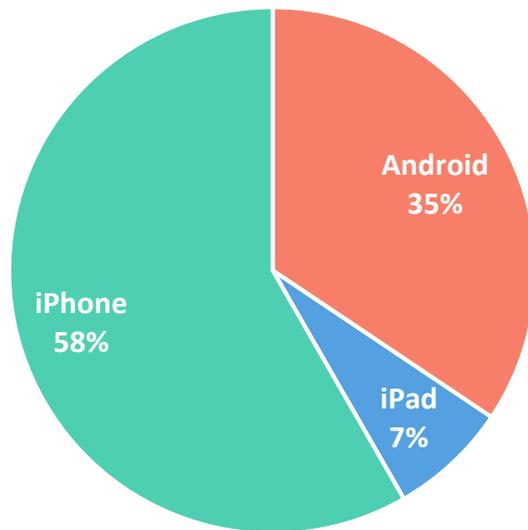


IMPACT

From July 2017 through April 2018 there have been over **1000 users** that have downloaded the app with an average of 170 unique visitors per month. Also, over **40%** of users have opted to receive push notifications allowing ADHS to directly communicate with approximately 400 school nurses and childcare staff.



The Healthy Kids AZ app is supported by various platforms including Android, iPad, and iPhone. A majority of HKAZ users use an Apple iPhone to access the app.



By supporting multiple platforms, ADHS is able to reach a large number of users and reduce barriers related to accessibility for the target audience.

Another important aspect to this project is the partnership formed between ADHS and the mobile app vendor, Mobile Roadie, during development of the HKAZ app. The app was built through a build-your-own app software platform. This allows ADHS to customize the app to fit the needs of the targeted user group as well as keep all content up-to-date. ADHS continues its partnership with Mobile Roadie through a maintenance contract renewed every 2 years. While ADHS is solely responsible for the content, support and upgrades required due to changes in the operating systems continues to be supported by the vendor. This partnership ensures that costs remain relatively low while providing users access to a free resource.