



# Improving Public Health Outcomes with Mobile Devices: *The Health Care Provider's Guide to Breastfeeding* mobile app

Hildreth England, RD LD – Texas DSHS-WIC | hildreth.england@dshs.state.tx.us  
Josh Handel – Catapult Systems | josh.handel@catapultsystems.com


Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

# Introductions

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Today

- **By the end of this session, attendees should be able to...**
  - Define “behavior design”
  - Identify at least one challenge in WIC service delivery that could be addressed with mobile technology
  - List two considerations from the planning phase that support a successful mobile initiative.
  - Express confidence and understanding of the mobile development lifecycle.
  - Apply two lessons learned from the HCP's Guide to BF to your agency's current or future mobile initiative.

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Since we're talking mobile...

- We'll be asking you to engage with us with live polls
- You can respond via text message or at a custom URL
  - Text response code to **22333**
  - Respond online by going to [pollev.com/TXWIC](http://pollev.com/TXWIC) or scan this...



**TIPS**

1. Standard texting rates only (worst case US \$0.20)
2. We have no access to your phone number
3. Capitalization doesn't matter, but spaces and spelling do

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## How To Respond via Text


EXAMPLE

How do you like my presentation so far?

Text a **CODE** to 22333

Amazing	<b>458456</b>	
Incredibly Amazing	<b>458471</b>	
It's Alright	<b>458472</b>	

0 1 2 3



**TIPS**

1. Standard texting rates only (worst case US \$0.20)
2. We have no access to your phone number
3. Capitalization doesn't matter, but spaces and spelling do

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## How To Respond via PollEv.com/TXWIC

EXAMPLE



How do you like my presentation so far?

Submit responses at **PollEv.com/txwic**

Text a **CODE** to 22333

Amazing	<b>458456</b>	
Incredibly Amazing	<b>458471</b>	
It's Alright	<b>458472</b>	

0 1 2 3

**TIP** Capitalization doesn't matter, but spaces and spelling do

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Let's practice...

This image is a poll's place holder.  
Enter slide show mode (F5) to view your live poll.

You can resize this image to resize where your poll will load in slide show mode.

Make sure you've installed the PollEv Presenter app (pollev.com/app) and are connected to the internet!

If you need to duplicate this poll make sure to copy/paste the entire slide (not just the place holder image).

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Ask the Audience...

This image is a poll's place holder.  
Enter slide show mode (F5) to view your live poll.

You can resize this image to resize where your poll will load in slide show mode.

Make sure you've installed the PollEv Presenter app (pollev.com/app) and are connected to the internet!

If you need to duplicate this poll make sure to copy/paste the entire slide (not just the place holder image).

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

And, while you have your phone out...



Link to  
The Health Care Provider's Guide to  
Breastfeeding  
iPhone app

*P.S. We'll discuss later.  
P.P.S. Sorry, Windows/Blackberry/Android owners!*

The high falutin' theory

## BEHAVIOR DESIGN & THE MISSION OF WIC

## WIC is a Behavior Change Program



**Everyone!**  
~~Clients~~ needs  
 the right  
 environment  
 -and-  
 the right tools  
 to change their  
 behavior



Improving Public Health Outcomes with Mobile Devices  
 Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Behavior Design – the theory

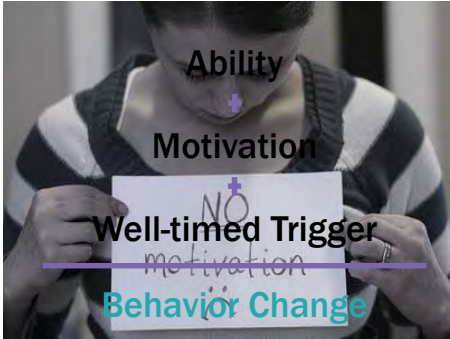
BJ Fogg, Stanford University

Technology is a *behavior change tool* that can...

- Automate a target behavior
- Persuade folks to make a particular (healthy!) decision, over and over
- “Trigger” action

Improving Public Health Outcomes with Mobile Devices  
 Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Behavior Design – the practice



Ability  
 ↓  
 Motivation  
 +  
 Well-timed Trigger  
 ———  
 motivation  
 ↓  
 Behavior Change

Improving Public Health Outcomes with Mobile Devices  
 Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Behavior Design


**ability > motivation + triggers**  
 (Ease of Use)

↑ simplicity = ↑ behavior

Improving Public Health Outcomes with Mobile Devices  
 Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Keep It Simple, Small




Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## BJ Fogg's Keys to Behavior Design Success

1. Choose a simple behavior to target
2. Learn what is preventing the target behavior
3. Choose the right technology tool

Note: behaviors that *require only a trigger* are the most likely to succeed

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

“Everything should be made as simple as possible, but not simpler.”

Albert Einstein




This image is a poll's place holder.  
Enter slide show mode (F5) to view your live poll.

You can resize this image to resize where your poll will load in slide show mode.

Make sure you've installed the PollEv Presenter app ([pollev.com/app](http://pollev.com/app)) and are connected to the internet!

If you need to duplicate this poll make sure to copy/paste the entire slide (not just the place holder image).

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 



**Behavior Design success!**

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## text4baby

**Evidence of Knowledge and Behavior Change**

- Increasing Health Knowledge and Preparedness:**
  - 74%** of total respondents who participated in the CSUSW/UCSD evaluation reported text4baby messages informed them of medical warning signs they did not know.
  - 3X** A George Washington University-led randomized evaluation found that text4baby mothers were nearly three times more likely to believe that they were prepared to be new mothers compared to those in the no exposure control group.\*
- Appointment Attendance:**
  - 65%** of total respondents who participated in the CSUSW/UCSD evaluation reported text4baby helped them remember an appointment or immunization that they or their child needed.
  - 11 vs 17%** The Alliance of Chicago Community Health Services (a network of Federally Qualified Health Centers) found the percentage of missed appointments was lower among text4baby smokers (n=97) compared to non-smokers (n=167) when comparing the two patient populations of one point in time.\*\*
- Facilitating Interaction with Health Providers and Improving Access to Health Services:**
  - 67%** of total respondents who participated in the CSUSW/UCSD evaluation reported they talked to their doctor about a topic they read on a text4baby message.
  - 40%** of total respondents reported they called a number for a service they received from text4baby, with a higher percentage of uninsured respondents reporting they called a service number.

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

Some context to the "we need a mobile app!" craze

## MOBILE TECHNOLOGY AND BEHAVIOR CHANGE AT WIC

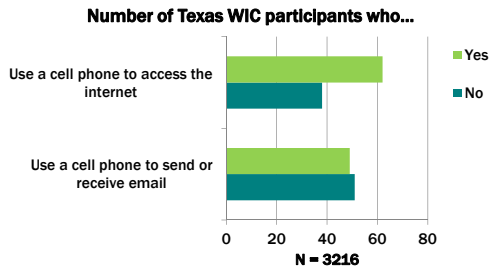
Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Taking Another Look at WIC



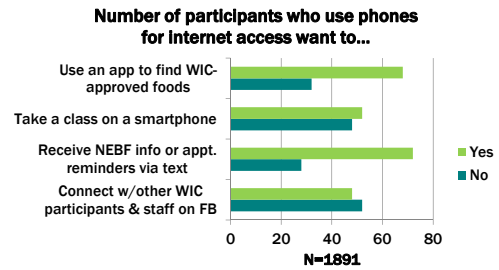
Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Texas WIC Clients & Mobile Tech



Improving Public Health Outcomes with Mobile Devices  
 Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## WIC Client Behavior Change & Mobile Solutions



Improving Public Health Outcomes with Mobile Devices  
 Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Supporting WIC Clients on All Sides



Improving Public Health Outcomes with Mobile Devices  
 Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Mobile Technology as the Tool


- **THINKING BEYOND WIC CLIENTS:**
  - What challenges does WIC face?
  - Who faces them?
  - Is mobile technology the right tool to support behavior change?
    - Inside the clinic
    - Outside clinic

Improving Public Health Outcomes with Mobile Devices  
 Sept. 18, 2013 | NWA Technology & Program Integrity Conference



## Some Broad Challenges

References, Documentation	Processing In the field	WIC Approved Foods
<ul style="list-style-type: none"> <li>* Hard to manage</li> <li>* Paper isn't "searchable"</li> <li>* Out of date quickly and expensive to reprint</li> <li>* Need the documents anywhere at any time</li> </ul>	<ul style="list-style-type: none"> <li>* Lots of paperwork</li> <li>* Forms have to be entered into the system later (twice the data input)</li> <li>* Should work with phones and tablets</li> <li>* Security is important</li> </ul>	<ul style="list-style-type: none"> <li>* List of approved items changes</li> <li>* Different locations can have different WIC-approved brands</li> <li>* Thousands of retailers each with varying technology, IT policies</li> </ul>
Native Mobile App	Hybrid HTML 5 App	HTML5 Online/Offline App

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

This image is a poll's place holder.  
Enter slide show mode (F5) to view your live poll.


You can resize this image to resize where your poll will load in slide show mode.

Make sure you've installed the PollEv Presenter app ([pollev.com/app](http://pollev.com/app)) and are connected to the internet!

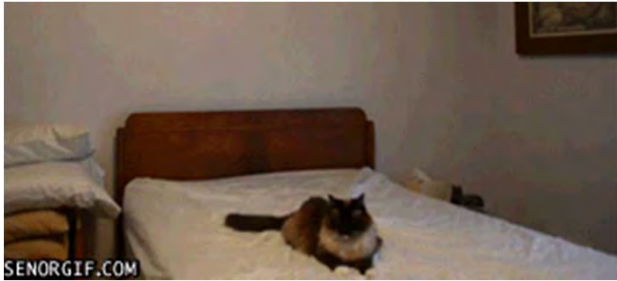
If you need to duplicate this poll make sure to copy/paste the entire slide (not just the place holder image).


Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## GOING MOBILE TO HELP IMPROVE TEXAS BREASTFEEDING RATES

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## Remember!





Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 



## Changing Behaviors in Hospitals


for WIC Clients....and Health Care Providers




Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## The HCP Guide to BF app: KISS


“The Physician’s Pocket Guide to Breastfeeding”



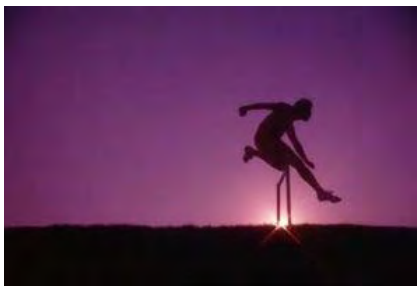
Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## The HCP Guide to BF app: The target behavior

- **The public health outcome:**
  - Improving Texas’ breastfeeding rates – both initiation and duration
- **The WIC-relevant behavior:**
  - Increase HCP access to and use of Texas WIC’s evidence-based clinical lactation reference manual with new moms right after delivery

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## The HCP Guide to BF app: The barrier to the behavior



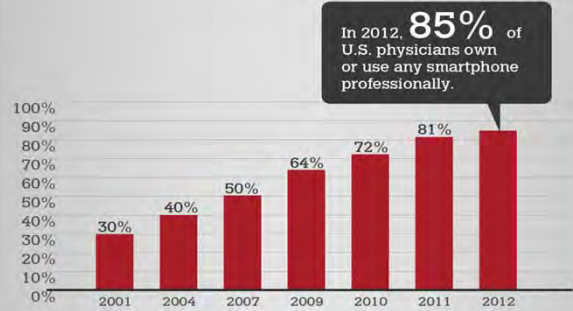
Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## The HCP Guide to BF app: The right technology

- **Health care provider behavior and mobile devices**
  - 56% of doctors who use apps say they expedite decision-making
  - 40% of doctors say healthcare technologies like apps can reduce patient visits
- **Health care industry and mobile**
  - Federal funds to promote the adoption and meaningful use of health information technology, including integration of mobile tech
  - The Health Information Technology for Economic and Clinical Health (HITECH) Act (Feb 2009, part of ARRA)
  - Affordable Care Act

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

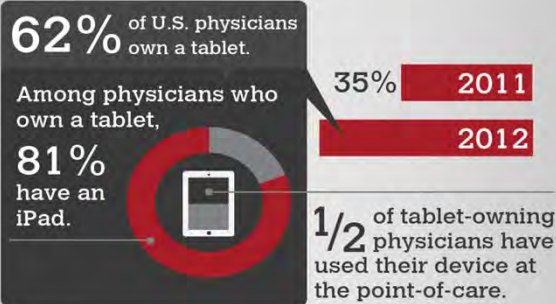
## Trending U.S. physician smartphone adoption



Source: Manhattan Research, Taking the Pulse 2012\*

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Trending U.S. physician tablet adoption



Source: Manhattan Research, Taking the Pulse 2012\*

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

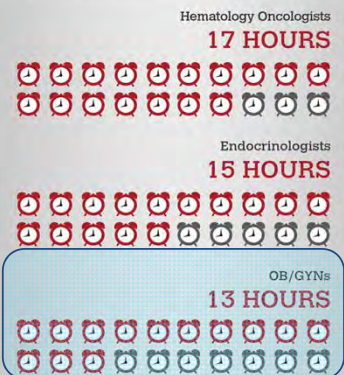
## AVERAGE TIME SPENT

Physicians spend an average of **11 HOURS** online for professional purposes per week.

- Apple leads over all competing platforms,
- Medical schools now hand out iPads to incoming students
- Differences in mobile-device use between practitioners in various medical specialties.

Sources: Manhattan Research, Taking the Pulse 2012\*, www.bulletinhealthcare.com 2011

## Hours spent online professionally per week, top 3 specialties:




Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Behavior Design in Action


- **Motivated, able users**  
> 80% physicians use mobile devices to help make point-of-care decisions
- **Identified major barrier to behavior**  
Mobile app addresses major barrier to WIC client breastfeeding success - HCP knowledge & BF support in hospital after birth
- **The right technology tool**  
The right tech tool to help HCP's use app easily, learn/share knowledge, and build credibility for WIC program



Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## Managing the Mobile Project: Explore partnerships

- **Leverage existing assets and/or partnerships**
  - Content already complete\*\*
  - Design draft available to visualize possibility
- **Existing partnership with ACC**
  - Ongoing contract with Austin Community College project design class
  - Help management and developers get a bird's eye view of program goals

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Original Design



Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## Managing the Mobile Project: Getting Approval

- **Defining the ROI for mobile**
  - Tangible cost savings
  - Intangibles benefits
- **Other considerations before 'making the ask'**
  - Staff investment
  - Content strategy
  - Process timeline
  - Project management

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## Managing the Mobile Project: What should you know?



## Managing the Mobile Project: Getting Approval

- **Building the Case**
  - Target behavior, audience, barrier research
  - Technology research
  - Clear vision for process and project plan
- **Researching contract and funding**
  - State cooperative contracts program for IT
    - “Application Development” category
  - “Best Value Justification”
  - Created SOW, released and awarded
- **Talk with your contracts, legal, & financial folks about what’s required at your agency**

## The Pitch



The Software Development Lifecycle

## DEVELOPING THE MOBILE APP

## WARNING!! WARNING!!



## How we built it

## Process Blueprint

### Design. Prototype. Build.



## Solution Strategies

- **Pure Native** – Written in the devices SDK, so one codebase per platform and no code reuse between platforms.
- **Common Language Frameworks** – All code is written in the same language. There can be 50% or more reusable code between platforms; but not a single codebase.
- **Hybrid** – Written in special frameworks that host the Mobile application on the device but inside a Web Control. There is a high level of code reuse between platforms usually with only one codebase.
- **Web** – A website that has been optimized for touch devices and use on smaller screens like mobile devices. Like any web-application there is usually only one codebase

## User Experience

- **Pure Native** – Written in the devices SDK, so one codebase per platform and no code reuse between platforms.
  - **Common Language Frameworks** – All code is written in the same language. There can be 50% or more reusable code between platforms; but not a single codebase.
- 
- UX Boundary
- **Hybrid** – Written in special frameworks that host the Mobile application on the device but inside a Web Control. There is a high level of code reuse between platforms usually with only one codebase.
  - **Web** – A website that has been optimized for touch devices and use on smaller screens like mobile devices. Like any web-application there is usually only one codebase

## Performance

- **Pure Native** – Written in the devices SDK, so one codebase per platform and no code reuse between platforms.
  - **Common Language Frameworks** – All code is written in the same language. There can be 50% or more reusable code between platforms; but not a single codebase.
- 
- Performance Boundary
- **Hybrid** – Written in special frameworks that host the Mobile application on the device but inside a Web Control. There is a high level of code reuse between platforms usually with only one codebase.
  - **Web** – A website that has been optimized for touch devices and use on smaller screens like mobile devices. Like any web-application there is usually only one codebase

## Mobile Programming Languages

- **Pure Native**
  - Apple iOS – Objective C
  - Google Android – Java
  - Microsoft Windows 8 - C# or HTML5
- **Common Language Frameworks**
  - C# and others
- **Hybrid**
  - JavaScript and some Pure Native SDK experience
- **Web**
  - HTML5, CSS3, JavaScript

## Access to Phone's Data and Hardware

- **Pure Native**
  - Apple iOS – Objective C
  - Google Android – Java
  - Microsoft Windows 8 - C# or HTML5
- **Common Language Frameworks**
  - C# and others
- **Hybrid**
  - JavaScript and some Pure Native SDK experience
- **Web**
  - HTML5, CSS3, JavaScript



## Development Investment

- **Pure Native**
  - 1N per platform
- **Common Language Frameworks**
  - 1N for the first platform, .5N per additional platform
- **Hybrid**
  - 1.25N for Apple, Google and Windows Phone
- **Web**
  - 1N for Apple, Google and Windows Phone

Highest

Lower

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Business Considerations

- **Pure Native**
  - Field Workforce and Line of Business Applications
  - Game Development
- **Common Language Frameworks**
  - Must go native but still need a broad reach
  - Leverage existing development language skill sets
- **Hybrid**
  - Smartphone Applications
  - Augmenting an existing web experience
- **Web**
  - Broad reach consumer solutions
  - Infrequent or impulse use cases
  - non-committed consumers, citizens or employees

Company Device

BYOD

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Offline Support

- **Pure Native**
  - Apple iOS - Objective C
  - Google Android - Java
  - Microsoft Windows 8 - C# or HTML5
- **Common Language Frameworks**
  - C# and others
- **Hybrid**
  - JavaScript and some Pure Native SDK experience
- **Web**
  - HTML5, CSS3, JavaScript

Best

Good

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference

## Maintenance and Support

- **Pure Native**
  - Apple iOS - Objective C
  - Google Android - Java
  - Microsoft Windows 8 - C# or HTML5
- **Common Language Frameworks**
  - C# and others
- **Hybrid**
  - JavaScript and some Pure Native SDK experience
- **Web**
  - HTML5, CSS3, JavaScript

Highes

Lower

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference



This image is a poll's place holder.  
Enter slide show mode (F5) to view your live poll.

You can resize this image to resize where your poll will load in slide show mode.


Make sure you've installed the PollEv Presenter app (pollev.com/app) and are connected to the internet!

If you need to duplicate this poll make sure to copy/paste the entire slide (not just the place holder image).

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Business Considerations

- **Pure Native**
  - Field Workforce and Line of Business Applications
  - Game Development
- **Common Language Frameworks** Deployed to a Marketplace
  - Must go native but still need a broad reach
  - Leverage existing development language skill sets
- **Hybrid**
  - Smartphone Applications
  - Augmenting an existing web experience
- **Web**
  - Broad reach consumer solutions
  - Infrequent or impulse use cases
  - non-committed consumers, citizens or employees

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Marketplace Considerations

- **Question: What value does a public marketplace provide the Enterprise?**
- **Considerations**
  - Who is your audience
  - Marketplaces are barriers
  - Marketplaces limit reach
  - Lose control of the deployment process
  - Shelf space and discoverability are low
  - A recent estimate stated 70 - 80% of apps are "zombie apps"
  - Apps must be compelling enough to keep users coming back
  - Payment processing benefit
  - Application Availability
- **Marketplace Sentiment is oftentimes a key driver**

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## Understanding the software development cycle

- **Start with short term goals**
- **Ground your mobile solution conversations with Who?**
  - Requirements
  - Platform Support
  - Smartphone vs. Tablet
  - Solution Strategy
  - Marketplace Considerations
- **Multiple mobile solutions might be the answer**
- **Keep all four (4) Solution Strategies on the table**
- **Balance the Great Compromise:**
  - User Experience vs. Supportability
- **Design, Prototype, Build**

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

The Final Product

# THE HEALTH CARE PROVIDER'S GUIDE TO BREASTFEEDING

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference



## The Health Care Provider's Guide to Breastfeeding



Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference



## The Health Care Provider's Guide to Breastfeeding




Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference



How not to reinvent the wheel

# LESSONS LEARNED

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference




## Content is Everything



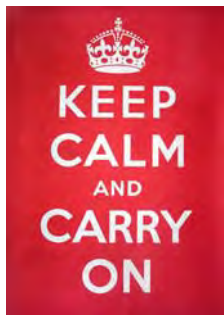
Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Process Is Key



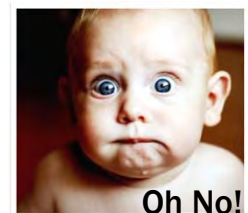
Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Perfect vs. Quality



Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Successes and Challenges



Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Challenge: You Don't Know... What You Don't Know



Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Challenge: Going to Market



Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Success!

- Impressive usage, download numbers
- Downloaded all over the country
- Core mobile solution could apply to other WIC challenges
- Helping establish a mobile development business process and mobile strategy at DSHS-WIC

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


What Can You Take Away?

## CONCLUSION

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Wrap-Up



Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## WIC On a Mobile Path



Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 


## Resources

- BJ Fogg & Persuasive Technology Lab
  - <http://captology.stanford.edu/>
- Howto.gov
  - mobile best practices, practice group, definitions, gov experiences, gov terms of service, mobile dev webinars
- Apple & Google Android Resources
  - <http://www.apple.com/business/accelerator/>
  - Android: Core App Quality Guidelines
- CONTENT-MANAGERS-L@LISTSERV.GSA.GOV

Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

## Tips



Improving Public Health Outcomes with Mobile Devices  
Sept. 18, 2013 | NWA Technology & Program Integrity Conference 

**Questions?**



**Thank You!**

[hildreth.england@dshs.state.tx.us](mailto:hildreth.england@dshs.state.tx.us)  
[johs.handel@catapultsystems.com](mailto:johs.handel@catapultsystems.com)