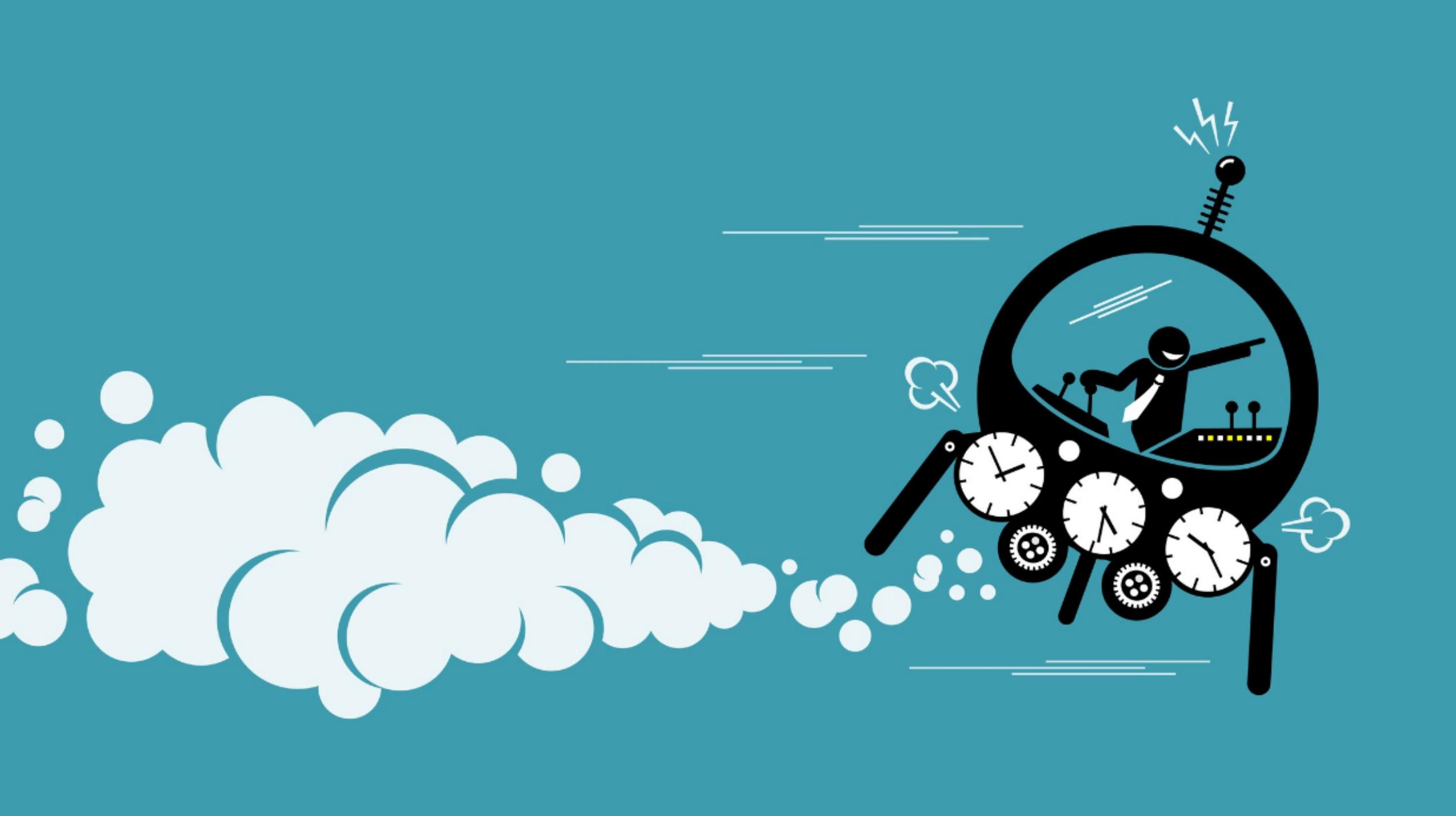


# CDC's Digital First Approach: Enhancing User Experience on CDC's Vaccines Site



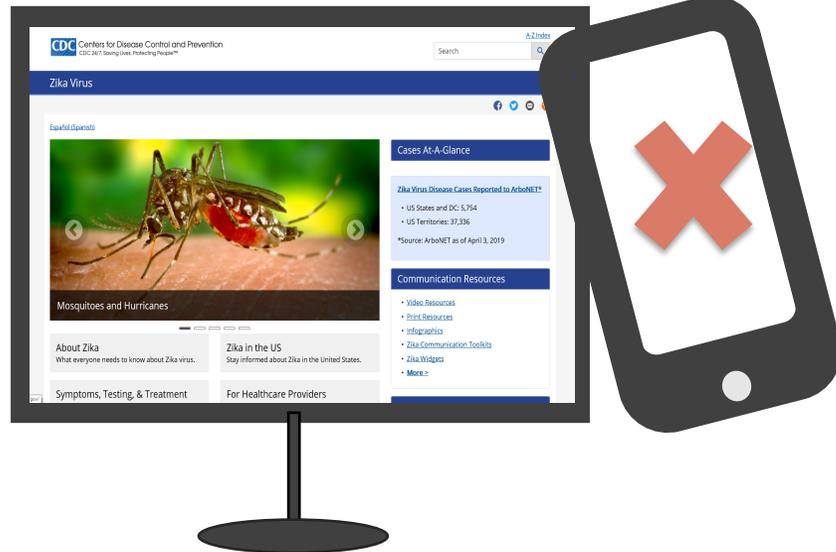
Lisa Richman MS-HCI  
Health Communication Specialist

# Part I: Digital First...



# Lessons from Zika

- Lots of “high value” print materials (PDFs, Infographics, fact sheets, etc. ) buried on site.
- Not optimized for a mobile experience.
- Long complex content – “wall of text”



## CDC's Response to Zika ZIKA: THE BASICS OF THE VIRUS AND HOW TO PROTECT AGAINST IT

### About Zika

Zika virus spreads to people primarily through the bite of an infected Aedes species mosquito (Ae. aegypti and Ae. albopictus). Zika can also be passed through sex from a person who has Zika to his or her sex partners and it can be spread from a pregnant woman to her fetus. People can protect themselves from mosquito bites and getting Zika through sex. This fact sheet explains what infected and why, symptoms and treatment, and how to protect against.

### How Zika Spreads

Protect yourself and family from mosquito bites all day and night, whether you are inside or outside. A mosquito becomes infected when it bites a person already infected with Zika. That mosquito can then spread the virus by biting more people.

### Zika virus can also spread:

- During sex with a person who has Zika to his or her sex partners.
- From a pregnant woman to her fetus during pregnancy or around the time of birth.
- Through blood transfusion (rarely but not confirmed).

### Zika Symptoms

Many people infected with Zika have symptoms or will only have mild symptoms. The most common symptoms are fever, rash, joint pain, or red eyes. Other common symptoms include muscle pain and headache. Symptoms last for several days to a week. You usually don't get sick enough to go to the hospital, and they usually go away. Once a person has been infected with Zika, they are unlikely to be reinfected from future bites.

www.cdc.gov/zika

Updated 2016 August 13, 2016

## TOP 5 THINGS EVERYONE NEEDS TO KNOW ABOUT ZIKA

1

**Zika primarily spreads through infected mosquitoes. You can also get Zika through sex.**

Many areas in the United States have the type of mosquitoes that can spread Zika virus. These mosquitoes bite during the day and night. Also, Zika can be passed through sex from a person who has Zika to his or her sex partners.

2

**The best way to prevent Zika is to prevent mosquito bites.**

- Use insect repellent. It works!
- Wear long-sleeved shirts and long pants.
- Stay in places with air conditioning or window and door screens.
- Remove standing water around your home.

3

**Zika is linked to birth defects.**

Zika infection during pregnancy can cause a serious birth defect called microcephaly that is a sign of incomplete brain development. If you have a partner who lives in or has traveled to an area with risk of Zika, do not have sex, or use condoms every time you have sex during your pregnancy.

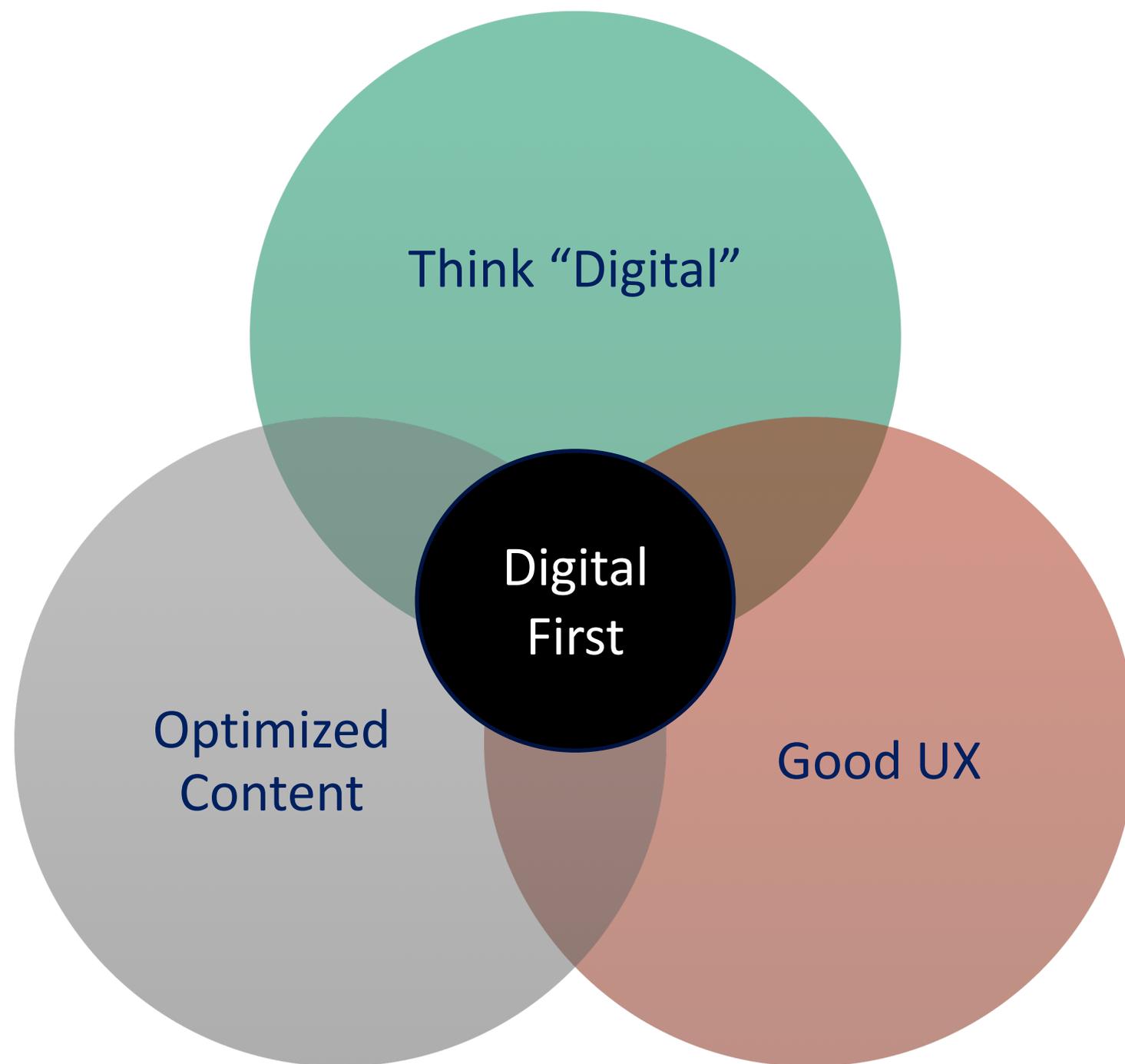
4

**Pregnant women should not travel to areas with risk of Zika.**

If you must travel to one of those areas, talk to your healthcare provider first and strictly follow steps to prevent mosquito bites during your trip.

5

**Returning travelers infected with**



Think "Digital"

Digital  
First

Optimized  
Content

Good UX

# CDC's Digital First Approach

CDC uses a digital first approach to make digital content more usable, effective and accessible on multiple devices.

- With digital first, we optimize our content for digital delivery from the very beginning, recognizing that digital is the primary way our audiences access CDC information.

The image shows a screenshot of the CDC website with an infographic overlaid. The infographic is titled "US Opioid Crisis: Addressing Maternal and Infant Health" and is divided into three main sections: "The Toll", "Health Outcomes", and "Email Updates".

**The Toll**

- Rate of overdose deaths among women:** The rate rose 20% in one year from 2015 to 2016. Visualized with two pill bottles, one for 2015 and one for 2016.
- Opioid use disorder:** Has gone up more than 4 times among pregnant women. Visualized with a large purple arrow pointing up and the text "x4".
- Neonatal abstinence syndrome (NAS):** It is 4 times as many infants were born with NAS in 2014 than in 1999. Visualized with a grid of 16 small human icons, with 4 icons highlighted in purple.

**Health Outcomes**

Opioid use disorder during pregnancy has been linked to:

- Preterm Birth
- Low Birthweight
- Breathing Problems
- Feeding Problems
- Maternal Mortality

The infographic also includes a section titled "The Toll" on the right side, which repeats the statistics about overdose deaths and opioid use disorder. A smartphone in the foreground displays the infographic content, illustrating the digital first approach.

# Part II: Vaccines for Your Children Website

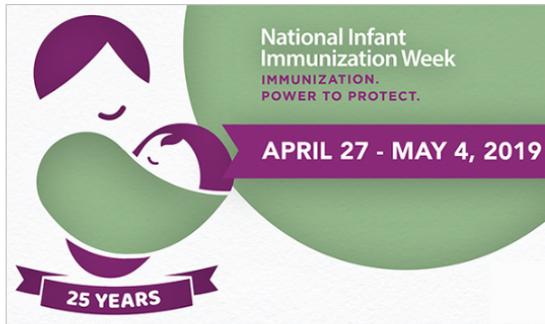
CDC site



## For Parents: Vaccines for Your Children



[<< Back to Vaccines Home](#)



[Growing Up with Vaccines: What Should Parents Know?](#)



[#Vaccines By The Numbers](#)



[How Vaccines Work](#)

### Why Vaccinate?

On-time vaccination throughout childhood is essential because it helps provide immunity before children are exposed to potentially life-threatening diseases. Vaccines are tested to ensure that they are safe and effective for children to receive at the recommended ages.

### Protect your Child at Every Age

Find age-specific vaccine information for your child from birth through 18 years.

### Records & Requirements

Learn about immunization records and state vaccine requirements for child care and school.

### Making the Vaccine Decision

Learn about how vaccines work, vaccine safety and risks, and answers to common questions.

### Immunization Coverage in the U.S.

Review estimates of the number of babies and teens who have received recommended vaccines.

### Your Child's Vaccine Visit

Find out what to do before, during and after your child's vaccine visit.

### Travel and Vaccines

- Redesign the site using a “digital first” approach.

# Background

## Primary Audience:

Parents who wanted more information on vaccinations for their children or teenagers

## Key Message:

Vaccinate your children from potentially life threatening diseases

## Primary method of delivery:

60% + Mobile devices

## Concerns:

- Great content “locked away” in PDFs
- Non-intuitive navigation
- Text heavy, content not optimized for mobile presentation



# Part III: Top “Digital First” Techniques

What worked well....

# 12 Top Techniques

1. Design for Mobile
2. Optimize Page Titles
3. Use Descriptive Headings
4. Write Short Page Summary
5. Identify and Prioritize Key Messages
6. Structure Content Based on User Goals
7. Highlight Key Content with Callout Boxes
8. Chunk Text for Easier Scanning
9. Make Key Links Stand Out
10. Design Navigation to be Clear, Concise, Easy to Understand
11. Use Images that Add Value and Support Key Messages
12. Optimize Infographics for Digital Consumption



# 1. Design for Mobile

- Prioritize content **in order of importance.**
- Place most important information **within the first 1-2 screenfuls** of the page.
- Avoid **pushing key content too far down** on the page.
- Avoid placing features, fact sheets, PDFs, and other resources **above critical content.**
- Ensure links are **easy to scan and easy to tap** on mobile. Lists, buttons, and other large target areas make mobile links easier to tap.



## Example

# 1. Design for Mobile

The redesigned Digital First version **begins the page with key information about the vaccine** and answers key questions about when children should receive the vaccine.

The screenshot shows the mobile app interface for 'Vaccines for Your Children'. At the top, the CDC logo and name are visible, along with a search icon. Below this is a teal header with the title 'Vaccines for Your Children' and the subtitle 'A resource for parents'. The main content area is titled 'Measles' with a dropdown arrow. Below the title is a decorative banner with the word 'Measles' and a pattern of colorful icons. The main text block contains the following information:

Getting the measles-mumps-rubella shot (called the MMR shot) is the **best way to protect against measles**. Doctors recommend that all children get the MMR shot.

**When should my child get the shot?**

DOSE #1	DOSE #2
12-15 months	4-6 years

Doctors recommend that your child get **two doses** of the MMR shot for best protection.



## 2. Optimize Page Titles

- Write clear page titles that accurately reflect the page content.
  - Lead with most important key words.
  - Consider SEO (search engine optimization) in the development of page titles.

The Digital First page title is more concise and easier to understand. Page title could be revised to “Measles Vaccine”.

The screenshot shows the CDC website page for 'Vaccine for Measles'. The page title is 'Vaccine for Measles'. The page content includes a navigation menu on the left with options like 'Parents Home', 'Why vaccinate', 'Vaccine schedule', 'Your child's vaccines', 'Combination vaccines', 'Chickenpox (Varicella)', and 'Diphtheria'. The main content area features a large graphic with the word 'Measles' and a text box stating: 'Getting the measles-mumps-rubella shot (called the MMR shot) is the **best way to protect against measles**. Doctors recommend that all children get the MMR shot.'



## 3. Use Descriptive Headings

- Use headings to
  - Break up text.
  - Set expectations: Users are willing to scroll, but in order to do so, they need confirmation that the information they are looking for is included on the page. Headings should be used to quickly and clearly communicate page content.
- Use mixed case (first letter capitalized) for headings.
- Write descriptive headings that answer key questions. This helps users who are scanning (on desktop) or swiping (on mobile) quickly to take away critical messages.
- Avoid questions as headings (when possible).



## Example

# 3. Use Descriptive Headings

The Digital First page uses sentence case for headings within body content to help make the headings easier to scan and read. See “How vaccines prevent disease”. The Digital First page also uses headings to communicate key messages such as “Vaccines do not make a mild illness worse”.

## How vaccines work

### Overview

As a parent, you want to protect your little one from harm. Before you decide to vaccinate your baby, you may wish to know more about:

- [how vaccines work](#)
- [how vaccines work with your baby's immune system](#)
- [vaccines side effects/risks](#)
- [vaccines ingredients](#)
- [vaccine safety](#)



Use this page to find this information as you make the vaccine decision. If you have more questions, talk with your child's doctor or see the [common questions about vaccines](#) for additional information.

### How vaccines prevent disease

The diseases vaccines prevent can be dangerous, or even deadly. **Vaccines reduce your child's risk of infection by working with their body's natural defenses to help them safely develop immunity to disease.**

## Headings with Mixed Case

## Vaccines do not make a mild illness worse

Vaccines only have a tiny fraction of the bacteria and viruses that children encounter naturally. Because of this the immune system can handle getting vaccines to build immunity to diseases and fight minor illnesses at the same time. However, vaccines may cause mild side effects. These side effects are very minor and

## Heading with Key Message





## 4. Write Short Page Summary

- Use page summaries to help users **quickly identify** the most important messages and more **easily find key information**.
- Include **1 sentence** to ensure messages are **concise**. If longer than 2 sentences, **consider bullets** or a space between paragraphs. *Parents missed or glossed over summary boxes that were too long.*
- **Bold key phrases** and avoid italicized text. *Parents did not perform as well when summary boxes did not include bold text or used italicized text.*
- Use **active text that is direct and easy to digest**. *Parents did not respond as well to messages that were passive, overly general, or not in concise, direct statements.*
- Structure summaries so most important words appear in the **first 3-5 words** of the summary.



## Example

# 4. Write Short Page Summary

CDC Centers for Disease Control and Prevention

Vaccines for Your Children  
A resource for parents

11 - 12 years

11-12 years

There are **4 vaccines recommended for preteens**.  
These vaccines can **prevent very serious diseases** like meningitis and HPV cancers.

### Works Well:

Key phrases bold, concise summary with actionable information. Two sentences includes a break in between.

CDC Centers for Disease Control and Prevention

Vaccines for Your Children  
A resource for parents

Measles

Measles

Getting the measles-mumps-rubella shot (called the MMR shot) is the *best way to protect against measles*. Doctors recommend that all children get the MMR shot.

### Works OK:

Includes bold and italicized text. Italics did not work as well as text that was only bolded.

CDC Centers for Disease Control and Prevention

Vaccines for Your Children  
A resource for parents

What to do if your child is sick

If your child has a mild illness, it's usually okay to get vaccinated. Doctors recommend that you get your child's vaccines on time and can help you decide if vaccines can be safely given.

### Needs Improvement:

No bold message. Long summary, not written in active voice.



## 5. Identify and Prioritize Key Messages

- Identify the single most important content message for each page.
- Use inverted pyramid style of writing. Place the most important info first. Parents performed best on pages where the most important information was included at the top of the page.
- Ensure each key message is clear and that critical information stands out.
- Avoid pages that begin with features that overshadow the most important information.
- Avoid placing fact sheets and resources at the top of the page. Parents stated that they wouldn't start by going to the fact sheet.
- Avoid placing content in PDFs. Most parents stated that they didn't want to open a PDF to find important content.



Example

## 5. Identify and Prioritize Key Messages

The redesigned page quickly answers key questions that a parent might have about the vaccine.

The screenshot shows a mobile-optimized web page from the CDC. At the top, the CDC logo and name are visible, along with a search icon. Below this is a teal header with the text 'Vaccines for Your Children' and 'A resource for parents'. The main content area is titled 'Measles' with a dropdown arrow. A decorative banner with the word 'Measles' and various icons is present. The first text block states: 'Getting the measles-mumps-rubella shot (called the MMR shot) is the **best way to protect against measles**. Doctors recommend that all children get the MMR shot.' Below this is a section titled 'When should my child get the shot?' which contains a table with two columns: 'DOSE #1' with '12-15 months' and 'DOSE #2' with '4-6 years'. A final text block at the bottom says: 'Doctors recommend that your child get **two doses** of the MMR shot for best protection.'

When should my child get the shot?	
<b>DOSE #1</b> 12-15 months	<b>DOSE #2</b> 4-6 years



## 6. Structure Content Based on User Goals

- Consider **users' key goal** in coming to the page.
- Structure pages to **answer users' key questions**.
- Identify the **optimal path a user should take** to explore additional content. *What should users do after visiting the page? What resources would be most helpful? Where should they go next?*
- Highlight the **most important links** to make them **easy to find** and help users to know what to do next.
- Use **callout boxes and action buttons** to highlight the most important links and **help direct users along their journey**



## Example

# 6. Structure Content Based on User Goals

### User Goals & User Journey:

The 11-12 year old page clearly considers users' questions (how many vaccines will my child receive, what are they, what do the vaccines do, etc.).

The page begins with **1.** a key message to **answer users' top questions** (page summary box) and then places **2.** the **most important information first** (a list of vaccines with links to additional info about each vaccine).

After the list of vaccines, the section ends **3.** with an **'action button'** to view the full schedule. This button helps to direct users to the next most important resource that they may want to visit.

**1** → There are **4 vaccines** recommended for preteens. These vaccines can **prevent very serious diseases** like meningitis and HPV cancers.

**2** → What vaccines will my 11-12 year old get?

At 11 - 12 years old, your pre-teen should receive the following vaccines:

- [Meningococcal Conjugate Vaccine \(1 Dose\)](#)  
Helps protect against some of the bacteria that can cause meningococcal disease, including sepsis and meningitis.
- [HPV Vaccine for Preteens and Teens](#)  
Helps protect both girls and boys from HPV infection and cancers caused by HPV.
- [Tdap Vaccine \(1 Dose\)](#)  
Helps protect against tetanus, diphtheria and pertussis (whooping cough).
- [Flu Vaccine \(Every Year\)](#)  
Helps protect against flu virus.

**3** → [View Full Vaccine Schedule](#)



## 7. Highlight Key Content with Callout Boxes

- Use **colored callout boxes** to draw attention to key content. *Colored callout boxes made it easier for parents to find tips and key messages.*
- Use **headings** to summarize content.
- Use **bold text** to highlight messages.
- Use **bullets** to help break up content and make it easier to scan.
- Add **icons or an image** for visual interest.
- **Do not overuse** as it may impact usability. *Pages that had too many callouts or too many different styles/colors of callout boxes felt cluttered to parents.*
- Select **one (or two styles)** for callout boxes. Use **light background colors**.



## Example

# 7. Highlight Key Content with Callout Boxes

Example of callout boxes that use icons, headings, bold text and bullets to communicate key messages.



**Treat side effects from vaccines by:**

- Putting a cool, wet washcloth on the sore area
- Asking your child's doctor about using pain- or fever-reducing medicine



**A mild illness is usually not a reason to reschedule a vaccination visit.** It's important that children [get their vaccines on time](#) to get the best protection against serious diseases.



## 8. Chunk Text for Easier Scanning

- Use **smaller paragraphs** / blocks of text.
- Ensure page **has lots of white space** so page feels less cluttered.
- Use lots of **headings** to break up the lists on the page.
- Use **bullets, lists, callout boxes, images, and modules** to break up long paragraphs of text.
- **Bold** key phrases and avoid bolding **entire sentences** or lists.
- **Avoid two columns** or modules on the left/right side of pages. *This makes content harder to scan (on larger viewports) as this interrupts the flow of reading and scanning.*
- Use **short chunks with highlighted messages**: *Key information needs to be bulleted or in callout boxes to make it stand out as mobile users swipe very quickly up and down a page.*



## Example

# 8. Chunk Text for Easier Scanning

Example of how taking content from paragraphs of text and placing it into a bulleted list improves readability and ease of scanning.

### What are the side effects?

Most children don't have any side effects from the shot. The side effects that do occur are usually very mild, such as a fever, rash, soreness or swelling where the shot was given, or temporary pain and stiffness in the joints (mostly in teens and adults). More serious side effects are rare. These may include high fever that could cause a seizure.

**Current Page**



### What are the side effects?

Most children don't have any side effects from the shot. The side effects that do occur are usually very mild, such as:

- Soreness, redness, or swelling where the shot was given
- Fever
- Mild rash
- Temporary pain and stiffness in the joints

More serious side effects are rare. These may include high fever that could cause a seizure.

**Digital First Page**



## Example

# 8. Chunk Text for Easier Scanning

## What NOT To Do:

1. Avoid bolding large sections or sentences of text.
2. Avoid the use of checkboxes unless there is a need to use them
3. Carefully consider whether or not to use multiple columns (on larger viewports) as it can interrupt the flow of the page.



Children with a mild illness or fever may still get vaccines



Doctors at leading health organizations, like the Centers for Disease Control and Prevention (CDC), the American Academy of Pediatrics, and the American Academy of Family Physicians recommend that children with mild illnesses receive their vaccinations on schedule. **Because a mild illness does not affect how well the body responds to a vaccine, your child may still be vaccinated if he or she has:**

- A low grade fever (less than 101 degrees Fahrenheit)
- A cold, runny nose, or cough
- An ear infection (otitis media)
- Mild diarrhea

 A mild illness is usually not a reason to reschedule a vaccination visit. It's important that children [get their vaccines on time](#) to get the best protection against serious diseases.



### 1-2 Months

- Diphtheria, tetanus, and whooping cough (pertussis) (DTaP)  
1st Dose
- Haemophilus influenzae type b (Hib)  
1st Dose
- Hepatitis B  
2nd Dose
- Polio (IPV)  
1st Dose
- Pneumococcal (PCV)  
1st Dose
- Rotavirus (RV)  
1st Dose

Vaccines at 1-2 Months



### When should my child get the shot?

DOSE #1 12-15 months	DOSE #2 4-6 years
Doctors recommend that your child get <b>two doses</b> of the MMR shot for best protection.	
Your child will need <b>one dose</b> at each of the following ages:	
<ul style="list-style-type: none"> <li>• <a href="#">12 through 15 months</a></li> <li>• <a href="#">4 through 6 years</a></li> </ul>	

### Why should my child get the shot?



- Protects your child from measles, a potentially serious disease, as well as mumps and rubella.
- Prevents your child from getting an uncomfortable rash and high fever from measles.
- Keeps your child from missing school or child care (and keeps you from missing work to care for your sick child).



## Example

# 8. Chunk Text for Easier Scanning



## What TO Do:

The 1-2 Month page is an excellent example of a page that is chunked well, easy to scan, and visually appealing. Key features:

1. Includes appealing images
2. Includes page summary
3. Several bulleted lists
4. Lots of headings
5. Ample white space
6. Use of callout boxes
7. Use of buttons for key links



## 9. Make Key Links Stand Out

- Highlight links so that they stand out.
  - Place links
    - on a new line so they don't get lost within a paragraph of text.
    - at beginning or the end of sentences.
    - at the beginning of bullets.
  - Try to avoid links in the middle of a sentence.
- Use callout boxes to highlight important links.
- Use 'action buttons' to emphasize important links.



## Example

# 9. Make Key Links Stand Out



### What NOT To Do:

1. The first example shows a number of links that are hard to see because they are **buried within paragraphs of text**.
2. The second example show an example of using too many vertical cards for related items. In UX testing, using too many vertical cards in a row **acted like a 'scroll stopper'** and users tended not to scroll to the bottom of the page to view additional content.

1



### Before the visit

Do some research and read about the shots your child is getting.

- Read any vaccine materials you received from your child's healthcare professional and write down any questions you may have.
- Use this [Instant Childhood Immunization Schedule](#) tool to see which shots are recommended for your child's age.
- Learn more about the benefits and risks of the vaccines that your child will receive by reviewing the corresponding [Vaccine Information Statements](#). You can also request Vaccine Information Statements at the doctor's office.
- Find your child's personal immunization record and bring it to your appointment. An up-to-date record tells your doctor exactly what shots your child has already received.



2



<p>Comfort Your Child</p>  <p>Tips on how to comfort your child and make shots less stressful</p> <p><a href="#">Your child's vaccine visit</a></p>	<p>Childcare / Schools</p>  <p>Requirements for immunizations vary by state</p> <p><a href="#">State vaccination requirements for childcare and school</a></p>	<p>Paying for Vaccines</p>  <p>If you need help paying for your child's vaccines, learn more</p> <p><a href="#">Vaccines for Children (VFC) Program</a></p>
<p>Staying on track</p>  <p>The schedule is designed to provide the right protection at the right time</p> <p><a href="#">6 Reasons to follow the immunization schedule</a></p>	<p>Shots while sick?</p>  <p>Children with mild illnesses may still get vaccines, even if they have a fever</p> <p><a href="#">Vaccines when your child is sick</a></p>	<p>Possible side effects</p>  <p>Millions of children in the US have been and continue to be safely vaccinated every year with no or only mild side effects</p> <p><a href="#">Possible vaccine side effects</a></p>



## Example

# 9. Make Key Links Stand Out



### What TO Do:

1. The first example shows a list of links nicely grouped in a 2-column block list and includes an “action” button to view more.
2. The second example includes a bulleted list with the links appearing at the **beginning of each line** with an “action” button to highlight an important link.
3. The third example shows how **placing a link on a new line** can help the link stand out visually from the content.

1

Find Vaccines by Age

Pregnancy	2 - 3 years
Birth	4 - 6 years
1 - 2 Months	7 - 10 years
4 months	11 - 12 years
6 months	13 - 18 years
7 - 11 months	Adoption
12 - 23 months	

[View Full Vaccine Schedule](#)

### What vaccines will my 11-12 year old get?

At 11 - 12 years old, your pre-teen should receive the following vaccines:

- [Meningococcal Conjugate Vaccine \(1 Dose\)](#)  
Helps protect against some of the bacteria that can cause meningococcal disease, including sepsis and meningitis.
- [HPV Vaccine for Preteens and Teens](#)  
Helps protect both girls and boys from HPV infection and cancers caused by HPV.
- [Tdap Vaccine \(1 Dose\)](#)  
Helps protect against tetanus, diphtheria and pertussis (whooping cough).
- [Flu Vaccine \(Every Year\)](#)  
Helps protect against flu virus.

[View Full Vaccine Schedule](#)

### Comfort Your Child



Tips on how to comfort your child and make shots less stressful

3 [Your child's vaccine visit](#)



## 10. Design Navigation to be Clear, Concise, Easy to Understand

- Ensure that the navigation is **easy to understand and logical** to users.
- Link labels should be **clear, concise, and descriptive**.
- Avoid labels that use “**marketing-speak**”. Instead use clear labels.
- Used **title case** for capitalization in navigation (first letter of every word capitalized)
- Use concise labels and consider the **length of the titles**. Try to keep structures to **7-10 links (for each level of navigation)**.
- Place the **most important links** at the top of the list. Consider the order in which users might want to digest the information and design the navigation to correspond to that.



## Example

# 10. Design Navigation to be Clear, Concise, Easy to Understand

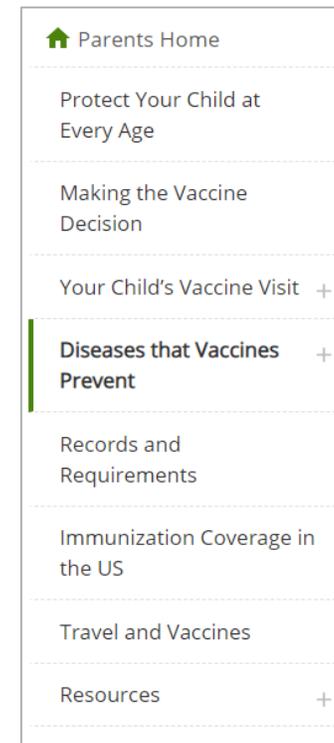
### Current Navigation:

The current site had several links that wrapped onto multiple lines or use long, overly complex link labels such as “Protect Your Child at Every Age,” “Making the Vaccine Decision,” and “Diseases that Vaccines Prevent.”

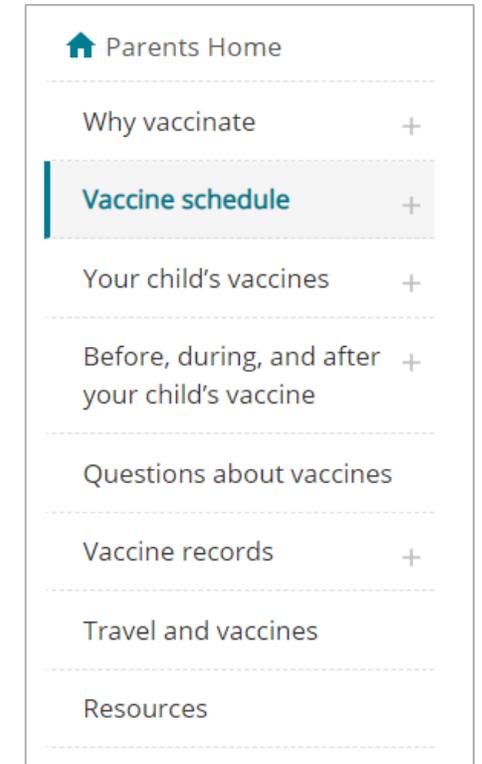
### Redesigned Navigation:

The redesigned navigation uses shorter labels that are more descriptive and clear.

\*Parents were **32% MORE successful** using the Digital First navigation than the Current navigation.



Current Nav



Digital First Nav



## Example

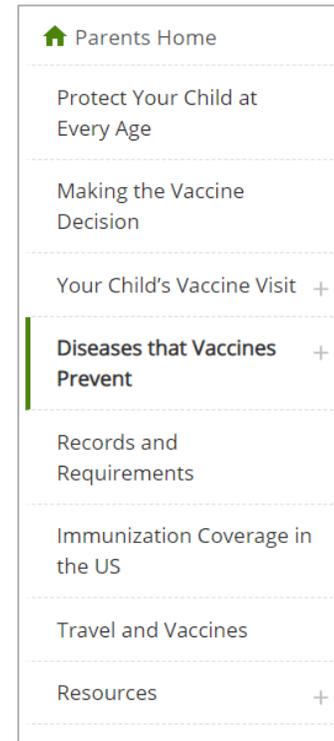
# 10. Design Navigation to be Clear, Concise, Easy to Understand

### Use Clear Labels:

Protect your child at every age → Vaccination schedule

Making the Vaccine Decision → Why vaccinate

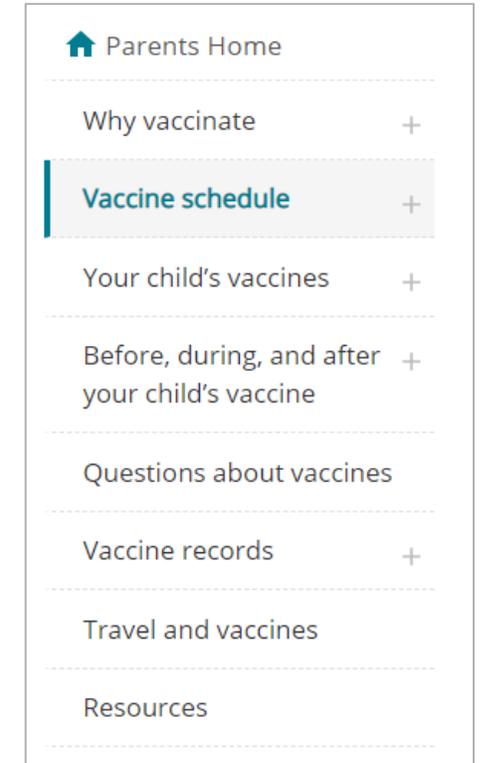
Diseases that Vaccines Prevent → Your child's vaccines



A vertical navigation menu with a home icon and the text 'Parents Home' at the top. Below it are several menu items separated by dashed lines: 'Protect Your Child at Every Age', 'Making the Vaccine Decision', 'Your Child's Vaccine Visit +', 'Diseases that Vaccines Prevent +', 'Records and Requirements', 'Immunization Coverage in the US', 'Travel and Vaccines', and 'Resources +'. A green vertical bar highlights the 'Diseases that Vaccines Prevent' item.

🏠 Parents Home
Protect Your Child at Every Age
Making the Vaccine Decision
Your Child's Vaccine Visit +
<b>Diseases that Vaccines Prevent +</b>
Records and Requirements
Immunization Coverage in the US
Travel and Vaccines
Resources +

Current Nav



A vertical navigation menu with a home icon and the text 'Parents Home' at the top. Below it are several menu items separated by dashed lines: 'Why vaccinate +', 'Vaccine schedule +', 'Your child's vaccines +', 'Before, during, and after your child's vaccine +', 'Questions about vaccines', 'Vaccine records +', 'Travel and vaccines', and 'Resources'. A blue vertical bar highlights the 'Vaccine schedule' item.

🏠 Parents Home
Why vaccinate +
<b>Vaccine schedule +</b>
Your child's vaccines +
Before, during, and after your child's vaccine +
Questions about vaccines
Vaccine records +
Travel and vaccines
Resources

Digital First Nav



## 11. Use Images that Add Value and Support Key Messages

- Use images to add **visual appeal and interest**.
- Images can be used to help **brand** a group of pages, **reinforce the page title**, and **set the tone** for the page.
- Select images that add **value and support content key messages**.
- Use images to help **break up content** and make a page easier to scan.
- Avoid using lots of images solely for decoration.

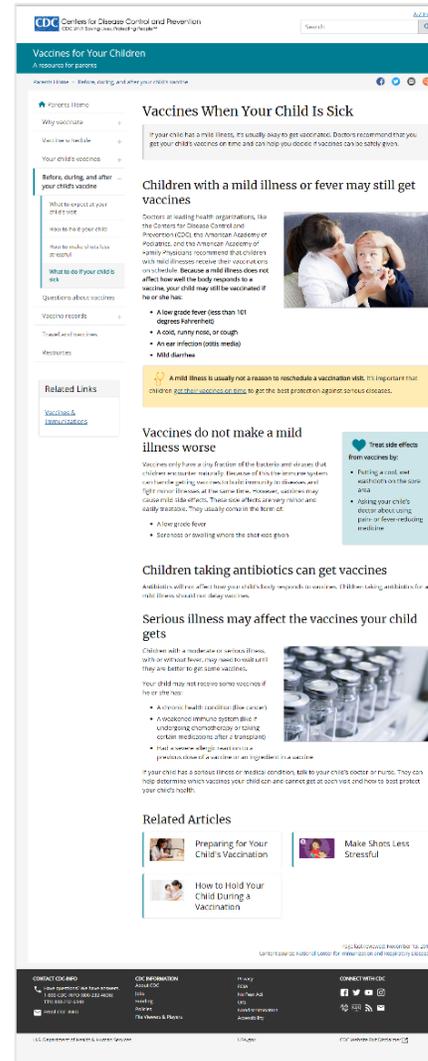


# 11. Use Images that Add Value and Support Key Messages



## What NOT To Do:

Parents thought some images on the Digital First pages were too big or did not provide any additional value.



**Serious illness may affect the vaccines your child gets**

Children with a moderate or serious illness, with or without fever, may need to wait until they are better to get some vaccines.

Your child may not receive some vaccines if he or she has:

- A chronic health condition (like cancer)
- A weakened immune system (like if undergoing chemotherapy or taking certain medications after a transplant)
- Had a severe allergic reaction to a






## Example

# 11. Use Images that Add Value and Support Key Messages

## ★ What Worked WELL:

The images on the “age” pages worked to:

- Brand page titles
- Provide visual interest
- Set a friendly tone for the page content

### Baby Vaccines at 1-2 Months



Protect your baby against **14 potentially serious diseases** before 2 years old with vaccines.

### Vaccines at 11 - 12 Years



There are **4 vaccines** recommended for preteens.

These vaccines can **prevent very serious diseases** like meningitis and HPV cancers.



## 12. Optimize Infographics for Digital Consumption

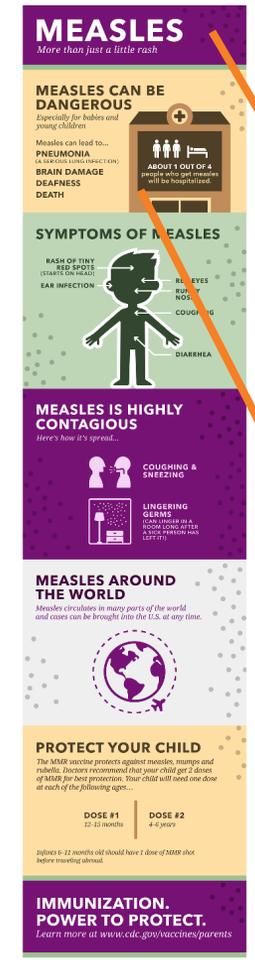
- Use a **Digital First** approach by designing images first for digital consumption and then using these images for print materials.
- Use images from infographics that provide additional value to help **illustrate a point** or make info **easier to understand**.
- Redesign images from infographics to format them for the web by making sure that they are **simple, easy to scan, easy to understand, and not overly complex**.
- Avoid using images that are **designed for print**.
- Avoid using **images with text** when possible.
- Avoid using **complex images with content in multiple columns**.



# 12. Optimize Infographics for Digital Consumption

## ✘ What NOT To Do:

1. The first image serves as a title for the infographic and provided little value when added to the webpage.
2. The second image has content in multiple columns and was **hard to scan** on the web as it was not designed for a Digital First experience.



Integrated into webpage



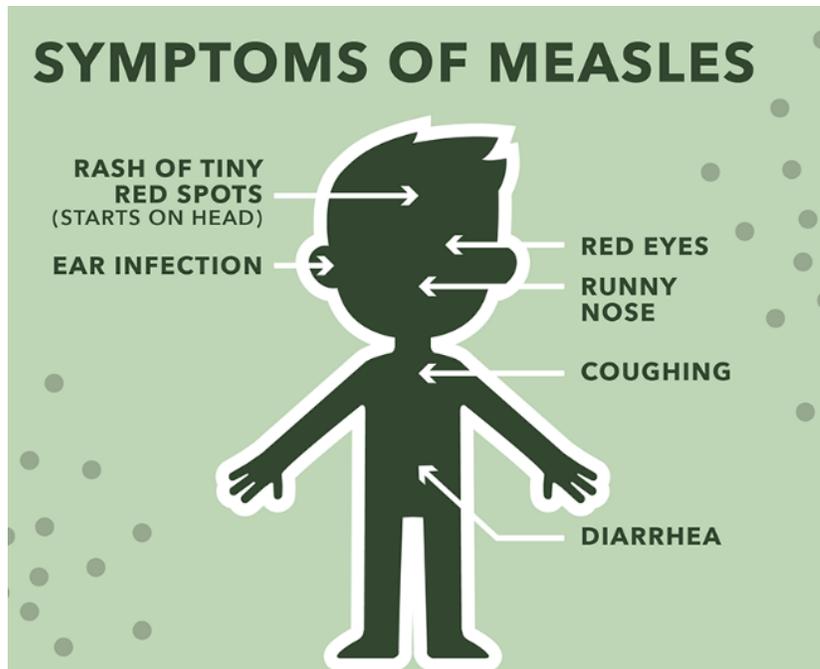
Example

# 12. Optimize Infographics for Digital Consumption



What Worked WELL:

The symptoms image helps to visually display content in a way that's easy to scan.



Infographic



Integrated into webpage

# Part IV: Usability Study

# Research Questions

- We tested our proposed digital first pages against the current pages to determine whether **digital first designs**
  - contribute to greater success in finding key vaccination messages,
  - are easier to use,
  - and provide a better user experience.
- IF digital first designs performed better, what digital first element was responsible for the greater success?

# Methods

- 16 parents (male/female)
- Even number of participants (8 and 8) viewed the pages on a desktop and a smartphone.
- 2-phase study

**Phase 1** - participants randomly assigned either the current pages OR the digital first pages in which they were to perform tasks and look for information

**Phase 2** - same participants were shown the alternate version as well, and asked to compare the two different versions and provide feedback on “ease of use” and “look and feel”

# Current Parents' Website

The current website features a top navigation bar with the CDC logo and search bar. The main content area is titled "For Parents: Vaccines for Your Children" and includes sections for "Why Vaccinate?", "Protect your Child at Every Age", "Making the Vaccine Decision", "Learn More About...", "Get Email Updates", "Your Child's Vaccine Visit", "Diseases that Vaccines Prevent", and "Vaccine Resources for Parents". The layout is dense with text and small images.

# Digital First Parents' Prototype

The prototype website features a clean, modern design with a teal header. The main content area is titled "Vaccines for Your Children" and includes sections for "Why Vaccinate?", "Find Vaccines by Age", "14 Diseases YOU ALMOST FORGOT ABOUT", "Learn more about...", and "Get updates". The layout is more spacious and visually appealing, with larger images and clear navigation.

A vertical strip of content from the current website, showing a navigation bar, a "Back to Vaccines Home" link, a "Growing Up with Vaccines" section, a "#VACCINES BY THE NUMBERS" section, a "Learn More About..." section, and a "Get Email Updates" section.

A vertical strip of content from the prototype website, showing a navigation bar, a "Why Vaccinate?" section, a "Find Vaccines by Age" section, a "Preparing for Your Child's Vaccination" section, and a "Vaccines When Your Child is Sick" section.

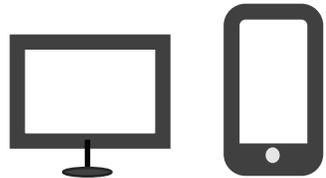
# Part IV: Usability Study - Results

Results

## Finding Key Messages

**93% Digital First**

Success in completing  
ALL tasks

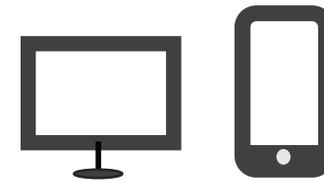


93%

93%

**69% Current Website**

Success in completing  
ALL tasks



69%

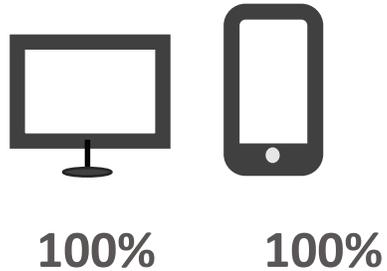
68%

**Bottom Line:** Parents were **24% MORE successful** using the Digital First prototype than the Current website.

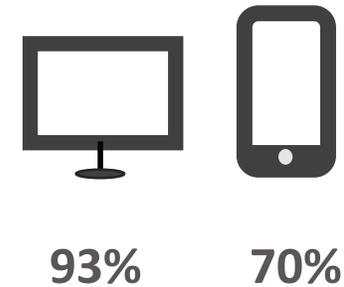
Results

## Finding Key Messages (Finding Content on Page)

**100% Digital First**  
Success in completing  
**ALL tasks**



**82% Current Website**  
Success in completing  
**ALL tasks**



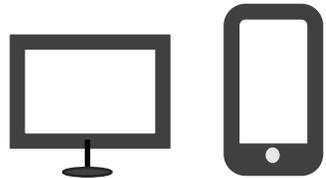
**Bottom Line:** Parents were **18% MORE successful** using the Digital First prototype than the Current website.

Results

## Finding Key Messages (Navigating to Content)

**87%** Digital First

Success in completing  
ALL tasks

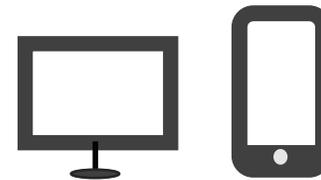


87%

88%

**55%** Current Website

Success in completing  
ALL tasks



56%

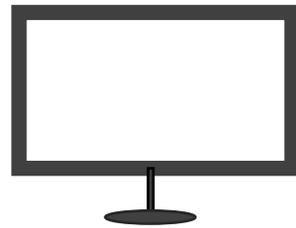
54%

**Bottom Line:** Parents were **32% MORE successful** using the Digital First prototype than the Current website.

Results

## Ease of Use

**87%** Preferred **Digital First version** over the current website



82%



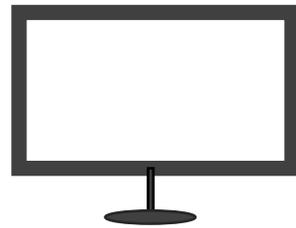
91%

**Bottom Line:** Parents using the **mobile version** of the Digital First site had higher preference ratings, with **91% of them preferring the Digital First prototype.**

Results

## Look & Feel

**92%** Preferred **Digital First version** over the current website



89%



95%

**Bottom Line:** Parents using the **mobile version** of the Digital First site had higher preference ratings, with **95% of them preferring the Digital First prototype.**

# Part IV: Usability Study – Participant Comments

# Comments

## Current Website

The screenshot shows the CDC website page titled "For Parents: Vaccines for Your Children". The page features a navigation bar with the CDC logo and search bar. Below the navigation bar, there are several sections: "Why Vaccinate?", "Protect your Child at Every Age", "Records & Requirements", "Making the Vaccine Decision", "Immunization Coverage in the U.S.", "Your Child's Vaccine Visit", "Travel and Vaccines", "Diseases that Vaccines Prevent", "Vaccine Resources for Parents", "Learn More About...", "Get Email Updates", and "HOW VACCINES STRENGTHEN YOUR BABY'S IMMUNE SYSTEM". The page also includes social media icons and a footer with contact information and accessibility links.

### Immunization Schedule

**Is your family growing?** To protect your new baby and yourself against whooping cough, get a Tdap vaccine. The recommended time is the 27<sup>th</sup> through 36<sup>th</sup> week of pregnancy. Talk to your doctor for more details.

- [Compliant version of the schedule](#)
- [Printer-friendly version](#) (2 pages)
- [Black & white](#) (2 pages)
- [En español: Child Schedule in Easy-to-read Format](#)

	Birth	1 month	2 months	4 months	6 months	12 months	15 months	18 months	19-23 months	2-3 years	4-6 years
HepB	HepB				HepB						
		RV	RV		RV						
		DTaP	DTaP	DTaP		DTaP					DTaP
		Hib	Hib	Hib	Hib						
		PCV13	PCV13	PCV13	PCV13						
		IPV	IPV		IPV						IPV
					Influenza (Yearly)						
						MMR					MMR
						Varicella					Varicella
						HepA					

## HPV Vaccine for Preteens and Teens

[Español \(Spanish\)](#)

### Fact Sheet for Parents

[Printer friendly version](#) (1 page)

HPV vaccination is recommended at ages 11-12 to protect against cancers caused by HPV infection.

### Why does my child need HPV vaccine?

**Human papillomavirus (HPV) vaccine protects against cancers caused by HPV infection.** HPV is a common virus that infects teens and adults. About 14 million people, including teens, become infected with HPV each year. HPV infection can cause [cervical, vaginal, and vulvar cancers](#) in women and [penile cancer](#) in men. HPV can also cause [anal cancer, cancer of the back of the throat \(oropharynx\), and genital warts](#) in both men and women.

### HPV and Cancer



[HPV Cancer Prevention](#)  
Preteens need HPV vaccine now to prevent many of the cancers caused by HPV later.

## 11 to 12 Years

There are four vaccines recommended for preteens—these vaccines help protect your children, their friends, and their family members. While your kids should get a flu vaccine every year, the three other preteen vaccines should be given when kids are 11 to 12 years old. There are some vaccines your teen will need more than one shot of to have the best protection.

The following vaccines are recommended by the American Academy of Pediatrics (AAP), the American Academy of Family Physicians (AAFP), other medical societies, and CDC:

- [Meningococcal Conjugate Vaccine](#)  
One dose of meningococcal conjugate vaccine helps protect against some of the bacteria that can cause meningococcal disease, including sepsis and meningitis.
- [HPV Vaccine](#)  
Human papillomavirus (HPV) vaccines help protect both girls and boys from HPV infection and cancers caused by HPV.
- [Tdap Vaccine](#)  
One dose of Tdap is recommended for protection against tetanus, diphtheria and pertussis (whooping cough).
- [Flu Vaccine](#)  
Everyone 11-12 years of age and older should get a flu vaccine every year.

### Recommended Vaccine Schedule



Help protect your teen's health by

## Vaccine Benefits

The vaccines recommended for preteens can prevent very serious diseases like meningitis and HPV cancers. Even illnesses like pertussis (whooping cough) or the

## Comments

# Current Website

- **“This one is super text-heavy and it’s also hard for me to scan.”**  
*–Mom, Kids’ Ages: 2, 5 , Desktop*
- **“It feels busy and wordy. I'm having a little trouble skimming**  
*–Mom, Kids’ ages: 5, 13, 18, Desktop*
- **“From a parent's perspective, at the end of the day, that's a whole lot of words I've got to read to figure out where to click.”**  
*–Mom, Kid’s Age: 1, Desktop*
- **“There’s a lot of content I probably wouldn’t read. It feels like a wall of text.”**  
*–Mom, Kids’ Ages: 9, 22, Desktop*
- **“The most important information is not apparent.”**  
*–Dad, Kids’ Ages: 10, 13, Desktop*

## Comments

# Current Website

- **“This is not easy to read [...] I’m confused. I’m scrolling back and forth and want to see the full image.”** She tried to pinch and zoom on the chart. **“That graphic is not mobile-friendly. I wish I could click on it.”**  
*–Mom, Kid’s age: 7, Mobile*
- **“Seems like kind of a lot of words, that knowing me, I probably wouldn’t really read. I feel like it’s not clear they are really recommended [vaccines].”**  
*–Mom, Kids’ ages: 5, 13, 18, Desktop*
- **“I’m unlikely to open a PDF. [...] [This page] is drier and a little more boring. I don’t really want to read it.”**  
*–Mom, Kids’ Ages: 2, 5, Desktop*
- **“It’s a lot. It’s too much. I see PDFs I’m not even going to click on.”**  
*–Mom, Kid’s age: 7, Mobile*

# Comments

# Digital First Website

The screenshot shows the CDC website's 'Vaccines for Your Children' section. It features a search bar, a 'Why Vaccinate?' section with an image of children, and a 'Find Vaccines by Age' section with a circular timeline of age groups from pregnancy to 18 years. Below this is a '14 Diseases You Almost Forgot About' banner and a 'Learn more about...' section with links to records, immunization coverage, travel, and updates. The footer includes contact information and social media links.

## Child Vaccine Schedule

Birth through 18 Years

Getting vaccines on time is the best way to protect your child from harmful diseases.

<h3>During Pregnancy</h3> <ul style="list-style-type: none"> <li><input type="checkbox"/> Flu vaccine</li> <li><input type="checkbox"/> Tetanus, diphtheria, and pertussis (Tdap)</li> </ul> <p><b>During Pregnancy</b></p>
<h3>Birth</h3> <ul style="list-style-type: none"> <li><input type="checkbox"/> Hepatitis B</li> </ul> <p><b>Vaccines at Birth</b></p> <p>1st Dose</p>
<h3>1-2 Months</h3> <ul style="list-style-type: none"> <li><input type="checkbox"/> Diphtheria, tetanus, and whooping cough (pertussis) (DTaP)</li> <li><input type="checkbox"/> Haemophilus influenzae type b (Hib)</li> <li><input type="checkbox"/> Hepatitis B</li> <li><input type="checkbox"/> Polio (IPV)</li> <li><input type="checkbox"/> Pneumococcal (PCV)</li> </ul> <p>1st Dose 1st Dose 2nd Dose 1st Dose 1st Dose</p>

## Measles

Getting the measles-mumps-rubella shot (called the MMR shot) is the best way to protect against measles. Doctors recommend that all children get the MMR shot.

<h3>When should my child get the shot?</h3> <p><b>DOSE #1</b> 12-15 months</p> <p><b>DOSE #2</b> 4-6 years</p> <p>Doctors recommend that your child get <b>two doses</b> of the MMR shot for best protection.</p> <p>Your child will need one dose at each of the following ages:</p> <ul style="list-style-type: none"> <li>12 through 15 months</li> <li>4 through 6 years</li> </ul>	<h3>Why should my child get the shot?</h3> <ul style="list-style-type: none"> <li>Protects your child from measles, a potentially serious disease, as well as mumps and rubella.</li> <li>Prevents your child from getting an uncomfortable rash and high fever from measles.</li> <li>Keeps your child from missing school or child care (and keeps you from missing work to care for your sick child).</li> </ul>
---	---

**The measles vaccine is safe!**

The MMR shot is very safe, and it is effective at preventing measles (as well as mumps and rubella). Vaccines, like any medicine, can have side effects. But most children who get the MMR shot have no side effects.

## Baby Vaccines at 1-2 Months

Protect your baby against **14 potentially serious diseases** before 2 years old with vaccines.

### What vaccines will my baby get?

At 1 – 2 months, your baby should receive vaccines to prevent the following diseases:

- Hepatitis B (2nd dose)
- Diphtheria, Tetanus, and Whooping Cough (pertussis) (DTaP)
- Haemophilus influenzae Type B (Hib)
- Polio (IPV)
- Pneumococcal (PCV)
- Rotavirus (RV)

### Create a personalized schedule

Get a **personalized vaccination schedule** for your child so you'll always be on track with his or her vaccine visits.

[View Full Vaccine Schedule](#)

[Create Your Child's Schedule](#)

## Comments

# Digital First Website

- **“I like the colors.** It takes something pretty basic like vaccines and **draws your attention** to where you should be clicking.”  
*–Mom, Kid’s Age: 1, Desktop*
- **“Much more intuitive.** Delivers the question every parent has, ‘What do I need to have for the age?’ Seems **more consumer-centric and consumer-friendly.**”  
*–Dad, Kids’ Ages: 10, 13, Desktop*
- **“It’s easy to glance [and find]** what’s going to be given and what’s going on in the future.”  
*–Mom, Kid’s Age: 1, Desktop*
- **“No guessing needed. [...] Less cluttered.** It’s already confusing, you need it to be broken down as easy as possible. I thought this was easier to get to.”  
*–Mom, Kid’s Age: 8, Desktop*

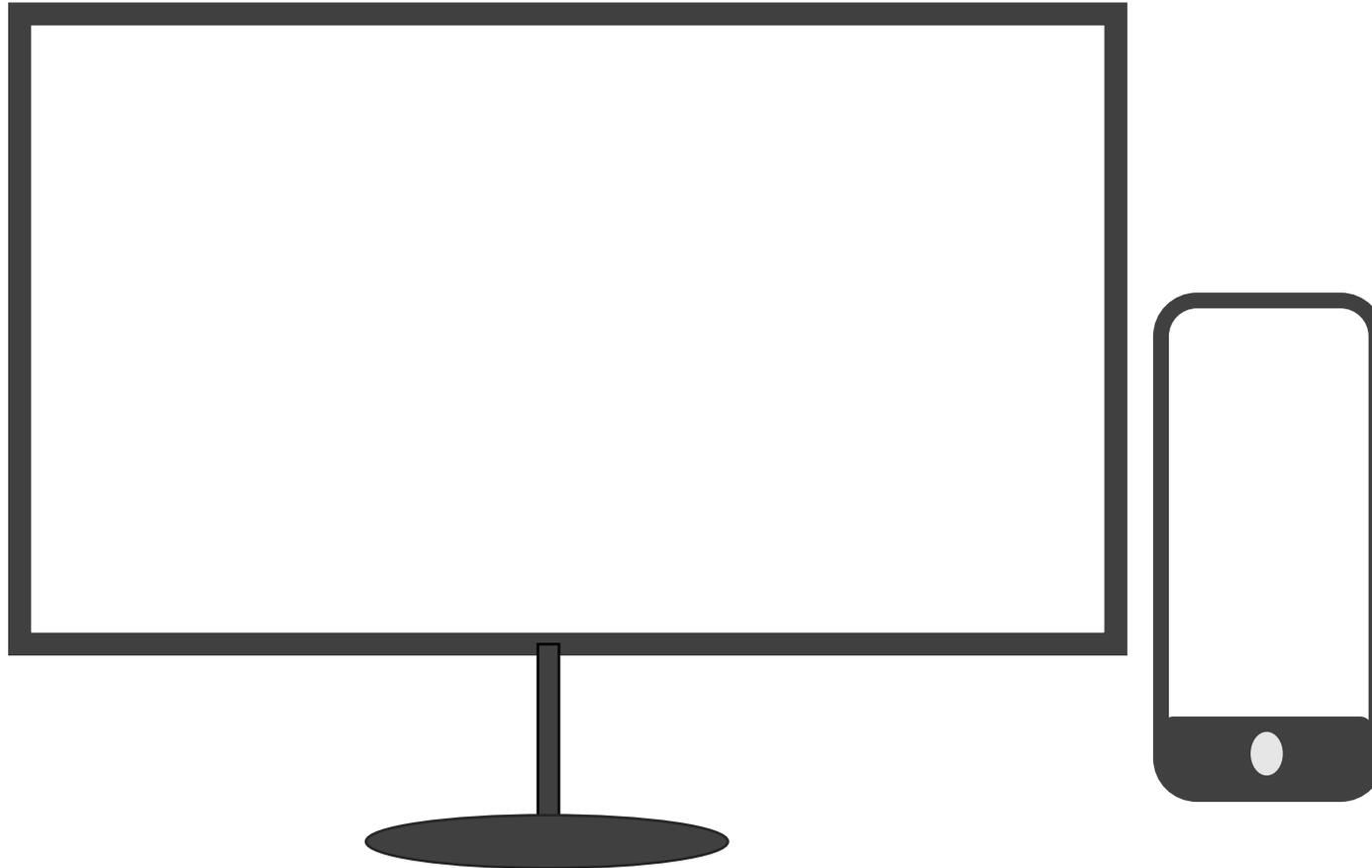
## Comments

# Digital First Website

- “Seems pretty straightforward [...] It’s a lot better because **the most important information is easy to access** versus SME gobbledygook.”  
*–Mom, Kid’s age: 7, Mobile*
- “I like that it’s **broken down into smaller chunks of information**. It’s easier to digest and easier to find what you need.”  
*–Mom, Kid’s Age: 1, Desktop*
- “There’s no guesswork on this one. It looks really thorough here. **It’s laid out a lot better—it’s easier to see what you need.**”  
*–Mom, Kid’s Age: 8, Desktop*
- “**Much more helpful. It delivers the content in a way I expect to see it.**”  
*–Dad, Kids’ Ages: 10, 13, Desktop*

# Coming Soon...

- <https://www.cdc.gov/vaccines/parents/index.html>



# THANK YOU

- Special thanks to:
  - Cathy Hogan (CDC, NCIRD)
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  - Julio Castro Perdomo (Northrop Grumman)
  - Jennifer Teeter (Northrop Grumman)
  - Cari Wolfson (Northrop Grumman)
  
- **Questions? Lisa Richman ([lrichman@cdc.gov](mailto:lrichman@cdc.gov))**