

# Streamlining Immunization Waivers with a Digital Touch

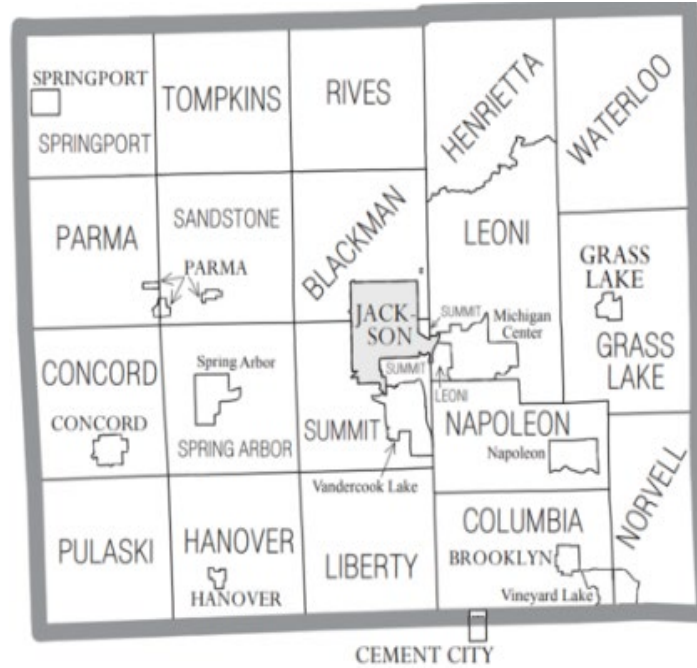
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PRESENTED BY JACKSON AND LIVINGSTON COUNTIES



# Jackson County, Michigan

- Located in southeast Michigan
- Population of 160,000
- 16 school districts



# Livingston County, Michigan

- Located in southeast Michigan
- Population of 200,000
- Ranks 5<sup>th</sup> for most vaccine waivered children in MI



# Immunization Waiver Mandate



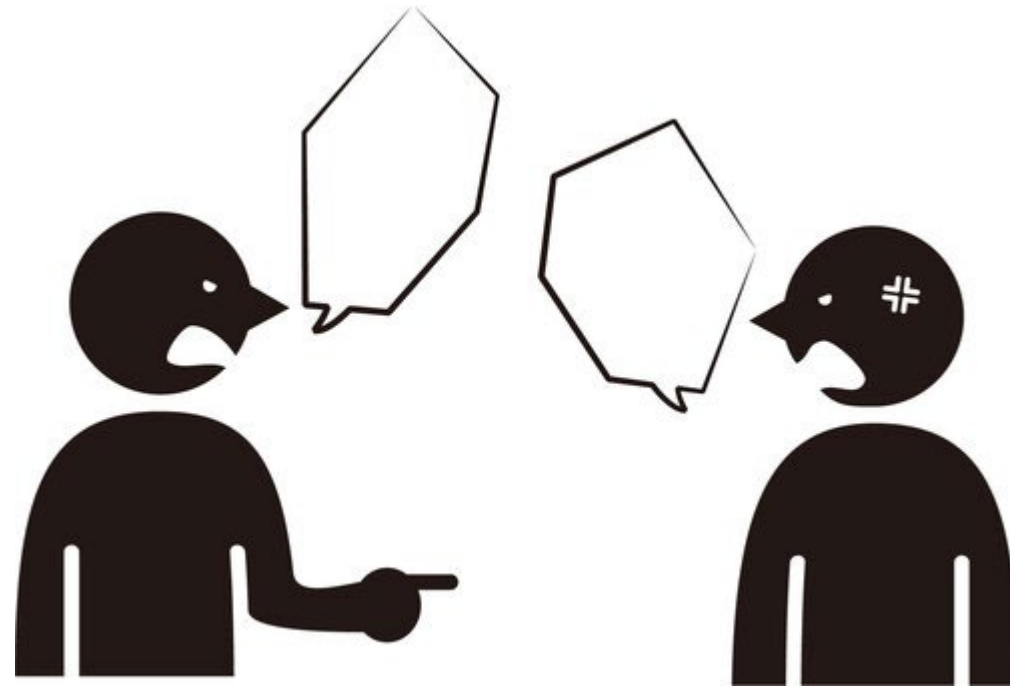
Michigan Public  
Health Code Act  
368 of 1978

Section  
333.9215

# Challenges

# 1. Staff and Client Dissatisfaction

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# The Catalysts for Change

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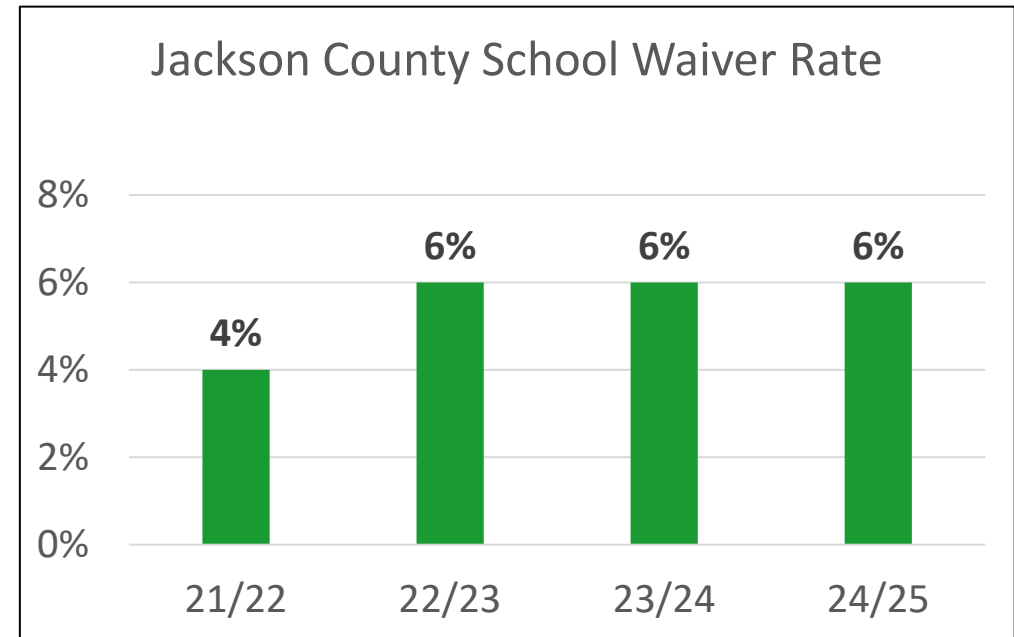
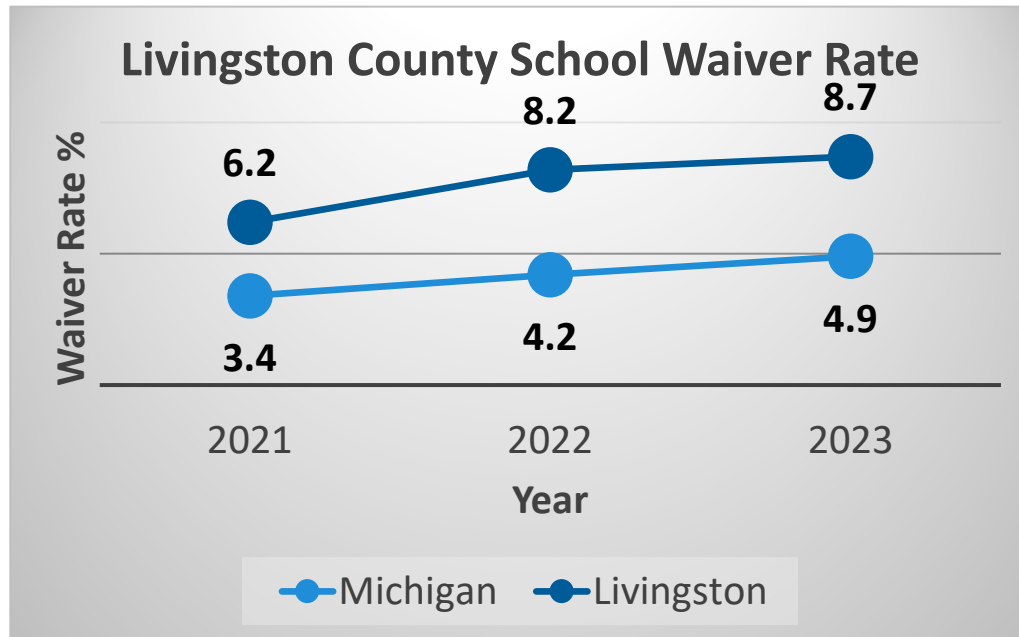
## OBSERVATIONS:

- Information overload for parents
- Tense, emotionally-charged appointments
- Disengaged and/or unreceptive parents – no meaningful discussion
- Mental and emotional exhaustion for staff
- Significant appointment preparation for staff
- Lengthy appointments

## QUESTIONS:

- Was the Waiver Education beneficial?
- Was the information presented/given in a format that clients were receptive to?
- What was our goal in providing the information?
- ***Could we provide the information, meet the needs of our clients, and meet the requirements of the public health code in a format that was more beneficial for our clients and our staff?***

## 2. Unimproved Waiver Rates



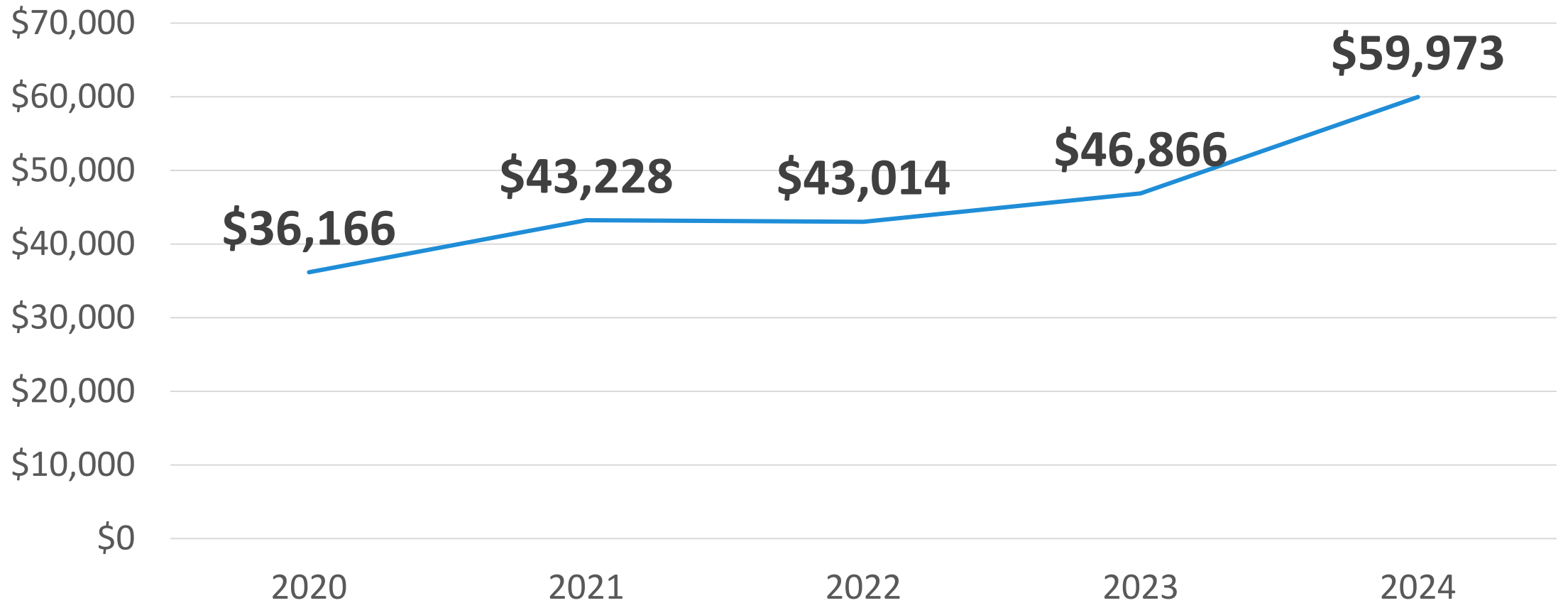
### 3. The Cost

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#### Costs per 1000 Waivers

Appointment Length	30 minutes per waiver
Staff Time	500 hours
Estimated Cost	\$53,500

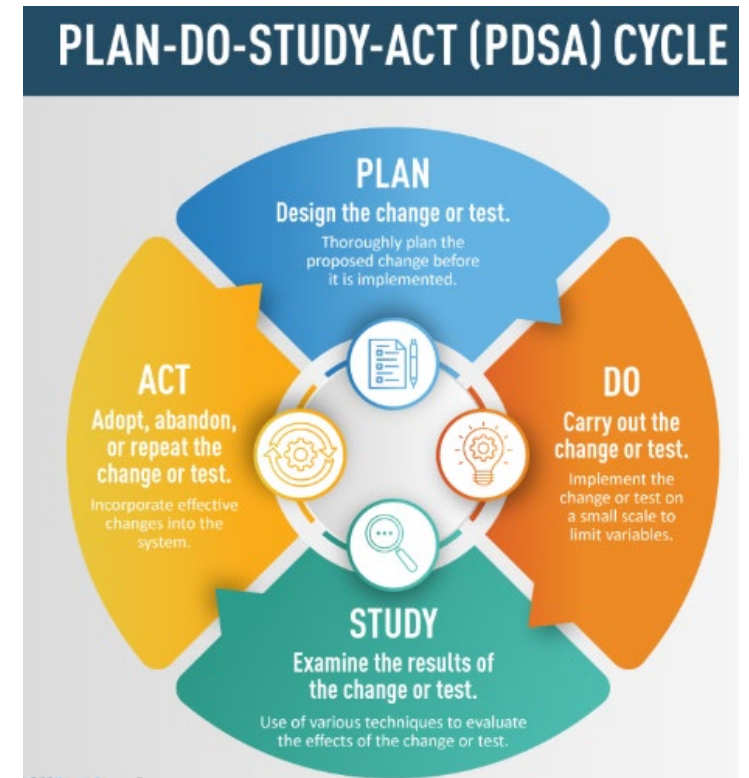
# Increasing Costs



Solution - Jackson

# Our First Approach to the Hybrid Model

- Conversations about potential online methods
- Technology we already had access to (no added cost):
  - Alchemer
  - Jotform
- Decided on PDF version with a knowledge check in Alchemer
  - 12 knowledge check questions
  - A question asking for any vaccine related questions
  - Following PDSA cycle to determine adaptations




# Waiver Education PDF

## PERTUSSIS/WHOOING COUGH

**How Does Pertussis Spread?:**  
Commonly referred to as whooping cough, pertussis is a very contagious disease that can affect people of all ages.

It is caused by a bacterium called *Bordetella pertussis* that's found in the mouth, nose and throat of infected people. The bacteria are spread through the air when an infected person coughs and sneezes.

Pertussis is so contagious that 8 of 10 non-immune people will be infected when exposed to someone with the disease.



**Symptoms:**

**Early Stages:**

- Runny or stuffy up Nose
- Low-Grade Fever
- Mild Cough
- Apnea (life-threatening pauses in breathing) and cyanosis (turning blue or purple) in babies and young children

**Later Symptoms:**

- Rapid, violent, uncontrolled coughing fits
- Make a high-pitched "whoop" sound when finally able to inhale at the end of a coughing fit
- Vomit during or after coughing fits
- Feel very tired after the fit, but usually seem well in-between fits
- Struggle to breathe

**DTAP/TDAP/TD**

**Pertussis ("100 Day Cough")**

Since 2010, between 15,000 and 50,000 cases of whooping cough are reported each year in the United States.

Before the whooping cough vaccines were recommended for all infants, about 8,000 people in the United States died each year from whooping cough.

Today, because of the vaccine, this number has dropped to fewer than 20 per year.

[Pertussis \(Whooping Cough\) | CDC](#) | [Whooping Cough \(Pertussis\) | CDC](#) | [Whooping Cough \(Pertussis\) | CDC](#) | [Pertussis \(Whooping Cough\) | Children's Hospital of Philadelphia \(chop.edu\)](#)


## TETANUS

**How do you get Tetanus?:**

Tetanus is an infection caused by a bacterium called *Clostridium tetani*.

Spores of tetanus bacteria are everywhere in the environment, including soil, dust, and manure. The spores develop into bacteria when they enter the body. Tetanus bacteria are more likely to infect certain breaks in the skin. These include:

- Wounds contaminated with dirt, poop (feces), or spit (saliva)
- Wounds caused by an object puncturing the skin (puncture wounds), like a nail or needle
- Burns
- Crush injuries
- Injuries with dead tissue



**Symptoms:**

- Jaw cramping
- Sudden, involuntary muscle tightening (muscle spasms) — often in the stomach
- Painful muscle stiffness all over the body
- Trouble swallowing
- Jerking or staring (seizures)
- Headache
- Fever and sweating
- Changes in blood pressure and heart rate

**DTAP/TDAP/TD**

**Tetanus**

Stepping on nails or other sharp objects is one way people are exposed to the bacteria that cause tetanus. These bacteria are in the environment and get into the body through breaks in the skin.

Tetanus is a vaccine-preventable disease that is not spread from person to person.

[Tetanus \(Lockjaw\) | CDC](#) | [Tetanus in Children | Children's Hospital of Philadelphia \(chop.edu\)](#)

## How Many Parents Choose to Waive Immunizations for their Child(ren)?


**Immunization Waiver Rates in Jackson County (as of 3/31/2023):**

Kindergarten -	6%
7th Graders -	5%
New to the District -	4%
<b>TOTAL WAIVERS -</b>	<b>5%</b>

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Click [here](#) to view Immunization Rates by School (rates in 2021).



## Vaccine Safety

The United States has one of the most advanced systems in the world for tracking vaccine safety.



Each of the systems below supplies a different type of data for researchers to analyze:

- [Vaccine Adverse Events Reporting System](#)
- [The Vaccine Safety Datalink](#)
- [Clinical Immunization Safety Assessment Project](#)

**A consensus exists...**

Hundreds of medical studies completed over many decades by credible and respected doctors and scientists across the world have found that vaccines are safe for the overwhelming majority of children and adults.

Question	% Correct
What vaccine-preventable disease is often referred to as the "100 day cough"?	98%
Which vaccine-preventable disease is not spread from person to person?	96%
Which virus can live for up to 2-hours in the air where an infected person coughed or sneezed?	81%
Schools are required by the State of Michigan to report the immunization status of which students?	91%
True/False: Students whose immunization status must be reported must be up to date with the required immunizations for school/childcare or have a valid waiver on file or they will be excluded from attending school/childcare.	99%
Babies and young children who contract this disease can have chronic disease and life-long consequences:	67%
If there is a case of a vaccine-preventable disease in your child's school or childcare and your child is not up-to-date with a vaccine for a particular disease: your child will be excluded from school or childcare for what period of time?	88%
True/False: schools are required to report communicable diseases to the local health department?	99%
Which two vaccines are recommended at age 11 and assessed for in 7th grade?	83%
What vaccine-preventable disease, which the US has not seen in over a decade, was recently diagnosed in a person residing in New York?	84%
Before the vaccine, 1 in 1,000 children who contracted this disease developed encephalitis:	74%
True/False: Childcares must report the immunization status of all children enrolled in their facility each year?	97%

# Parent/Guardian Comprehension

644 KNOWLEDGE  
CHECKS COMPLETED

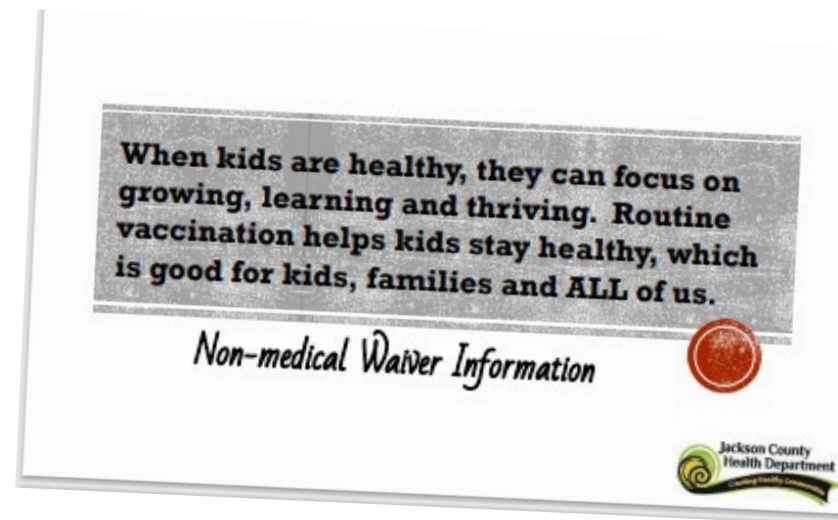
JULY 2023 - SEPT 2024

## Lessons Learned from PDF Waiver Education

- Parents appreciated having option to complete education at home
- A number of parents indicated they found the education informative
- Appointments were less tense
- In some instances, more discussion was taking place

## Problems/Issues with PDF Waiver Education

- We could not put a timer on the pdf, so some parents just “scrolled” through
- The only way parents viewed the videos was if they clicked on them
- We felt we were still falling short of what we wanted to offer



Solution - Livingston

# Planning

STARTED JANUARY 2024

1. Review current practice

2. Process map

3. Software evaluation

# Development Process



1. SOFTWARE



2. CONTENT  
CREATION



3. WEBSITE  
DEVELOPMENT



4. TESTING



1. Alchemer survey platform ([www.Alchemer.com](http://www.Alchemer.com)) was selected for development of the virtual educational program



2. Annual membership = \$1,000 per user



3. LCHD already uses Alchemer as a tool for a variety of programs

Software

# Alchemer

# Content Creation

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## Educational module outline:

- Summary of hybrid waiver education process
- Vaccine risk vs. benefit
- Instructions to complete in-person signature

Created by nursing staff & reviewed by medical director

Reviewed by Health Promotion team

# Website Development

## Additional Information

Who needs an immunization waiver?

Which vaccines are required for enrollment?

Why is immunization waiver education required?

Where can I learn more about vaccines?

Where can I learn more about immunization waivers?

Why did LCHD switch to a hybrid immunization waiver process?

## Immunization Waiver

Home /

Michigan  
vaccinat  
childcare  
prevent

Michigan  
enter sch  
public he

Follow th  
Health D

### Waiver Process

1. Complete LCHD's Virtual Immunization Waiver Education
2. Schedule an in-person appointment at LCHD  
  - You will not be able to schedule an appointment until you have completed the virtual education.
3. At the in-person appointment, sign the immunization waiver  
  - Remember: The immunization waiver is only valid for the district you are currently in.
  - Once the waiver is signed, a copy is sent to the district.

### Waiver Guidelines

- LCHD is only able to provide nonmedical immunization waivers.
  - › LCHD does **not** provide immunization waivers for medical reasons.
- The immunization waiver education is provided for children in Michigan.
- Immunization waivers are required:
  - › Annually for childcare
  - › Before starting Kindergarten
  - › Before starting 7th grade
  - › Anytime the student changes school districts

*If you have difficulty viewing or completing the virtual education, contact LCHD for an in-person appointment at 517-546-9850.*



LCHD staff (including environmental health staff with no prior knowledge of waivers) test the process



Adjusted timers, content sizing, etc.



Staff tested the online format on a cell phones, tablets, laptops, etc.



Added more ADA compatibility

# Testing

This online session allows parents to complete the education at their own pace and convenience, leading to a more thoughtful processing of information and the formation of questions.



Livingston

Jackson

At the end of the session, parents can choose to vaccinate their child, sign an immunization waiver, or schedule a time to discuss any questions with a nurse.

After completing the session, parents receive a phone call within 3 business days to schedule an appointment to sign the waiver.



Those who choose to continue with their waiver are asked to come in-person and can complete their in-person appointment in 5-10 minutes.

<b>Category</b>	<b>Amount</b>
Staff Time (Dev & Testing)	\$22,000
Alchemer Membership (1 Year)	\$1,000
<b>Total</b>	<b>\$23,000</b>

# Cost of Development and Implementation

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# Results

# Post Waiver Survey Results - Jackson

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- 73 surveys completed
- 86.7% previously completed a different waiver prior to 2023
- 62.5% had completed a waiver before
- 86.1% preferred reviewing material online rather than in person
- 84.5 % found the information beneficial
- 12.5% were considering vaccinating their child for 1 or more vaccines after education
  - MMR, polio, DTaP/Tdap, meningococcal were the highest



## Ease of Use & Satisfaction

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Both parents and staff voice satisfaction with the hybrid waiver process.

Parents frequently express excitement and surprise at how quick and easy the new process is.

Over 80% of parents rate their experience 10/10 for satisfaction



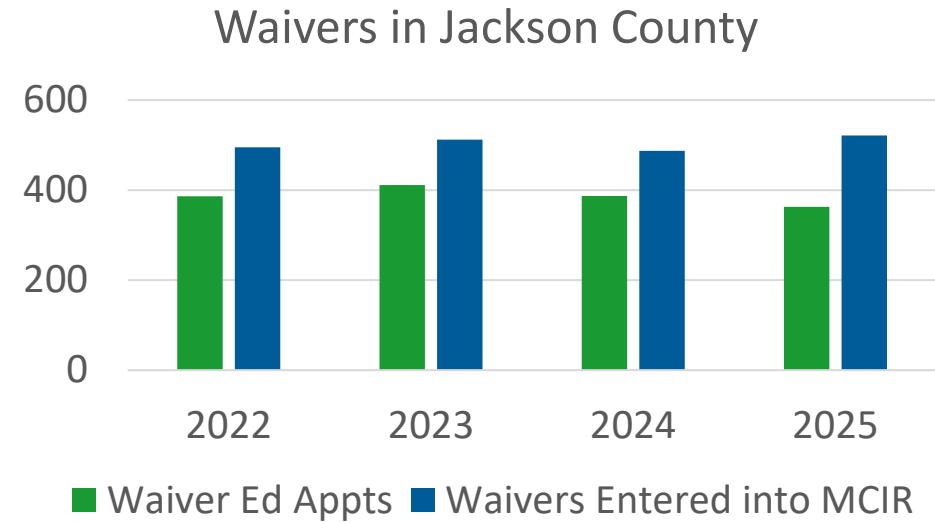
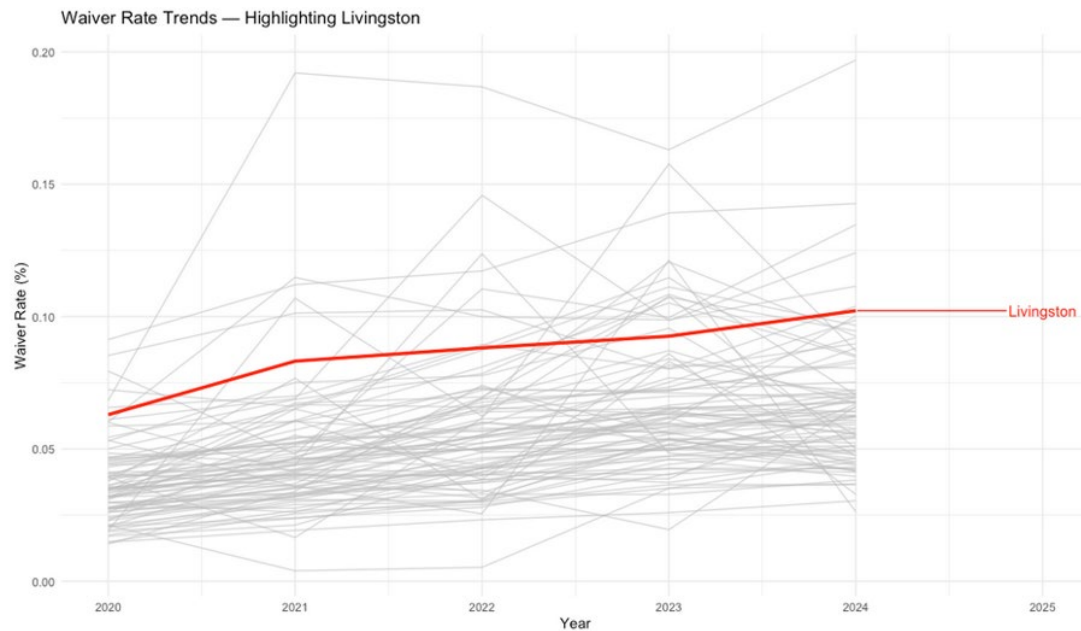
# Understanding of Content

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Participants from both counties demonstrated a high comprehension of the content.

- Livingston County participants answered 94% of knowledge check questions correctly
- Jackson County participants answered 96% of their knowledge checks correctly.

# Waiver Rates

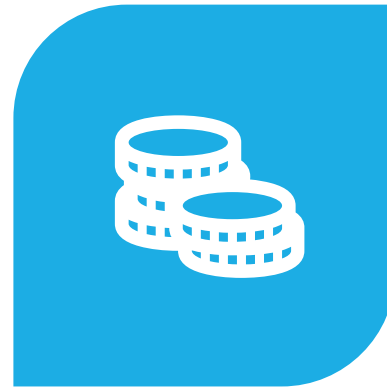


# Year-One Cost - Livingston

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START UP COSTS \$21,000



TOTAL COST  
\$29,881



STAFF HOURS NURSING  
\$8,881

# What We Learned - Jackson

- Parents continue to appreciate having the option to complete the education at home
- From our post survey – most parents find the education beneficial
- Appointments continue to be less tense
- It's important to listen to feedback and incorporate it into the education to make sure it remains current and beneficial

**FACTS ABOUT VACCINES.....**

- Although no vaccine is 100% effective, vaccines (depending on the vaccine preventable disease) have a 75-over 85% efficacy rate.
- Vaccines can have side effects.
- Serious adverse reactions from vaccine can occur, but are extremely rare.

← Risk associated with disease and risks associated with the vaccine →

Disease	Risks associated with disease	Risks associated with Vaccine
Hepatitis B	About 1 in 4 people with chronic infection will develop cirrhosis or liver cancer.	About 1 in 20 has swelling, redness or pain at the injection site, and 2 in 100 have fever. Anaphylaxis occurs in about 1 in 1 million.
Hib (Haemophilus Influenzae Type B)	About 1 in 20 with meningitis dies and about 1 in 4 survivors has permanent brain or nerve damage. Epiglottitis is rapidly and invariably fatal without treatment.	About 1 in 20 has swelling, redness or pain at the injection site, and 2 in 100 have fever.
Measles	About 1 in 15 children with measles develops pneumonia and 1 in 1000 develops encephalitis (brain inflammation). For every 10 children who develop measles encephalitis, 1 dies and many have permanent brain damage. About 1 in 100,000 develops SSPE (brain degeneration), which is always fatal.	About 1 in 10 has swelling, redness or pain at the injection site, or fever. About 1 in 20 develops a rash, which is non-infectious. Temporary low platelet count (causing bruising or bleeding) occurs after the 1st dose of MMR vaccine at a rate of about 1 in 20,000 to 30,000.
Pertussis	About 1 in 125 babies under the age of 6 months with whooping cough dies from pneumonia or brain damage.	About 1 in 10 has swelling, redness or pain at the injection site, or fever. Booster doses may occasionally be associated with extensive limb swelling, but this resolves completely within a few days.

## Changes we have made...

- Removed a slide regarding community immunity
- Added slide showing reactions to vaccine versus complications from disease
- Added a slide promoting a healthy lifestyle

## The JCHD is dedicated to creating a healthy community by promoting:

- Vaccinations
- A Healthy Diet
- Physical Activity
- Good Sleep Habits
- Mental Health Awareness





# What We Learned - Livingston

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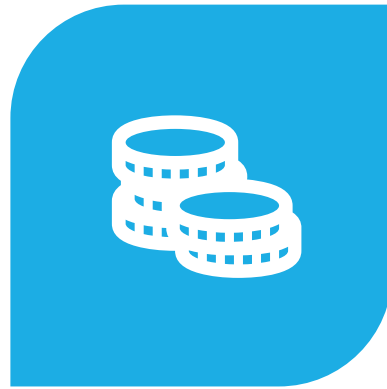
1. Parents rarely have questions for nursing staff. We now have clerical staff conduct the signing appointment resulting in an even larger cost savings.
2. We became “experts” at using Alchemer and have found MANY new uses to help increase efficiency within the department.

# Year-Two Cost - Livingston

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OVERHEAD \$1,000  
(ALCHEMER)



TOTAL COST  
\$5,307



STAFF HOURS CLERICAL  
\$4,307

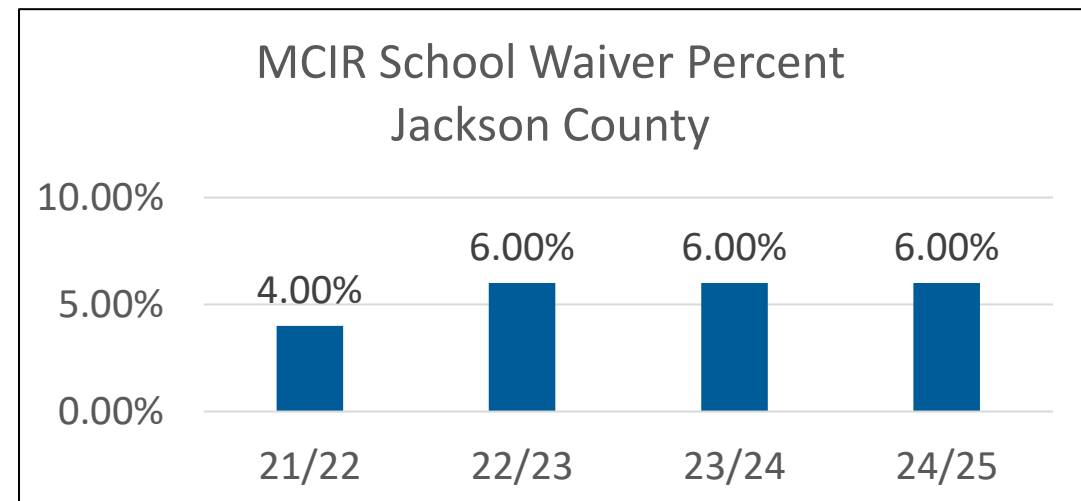
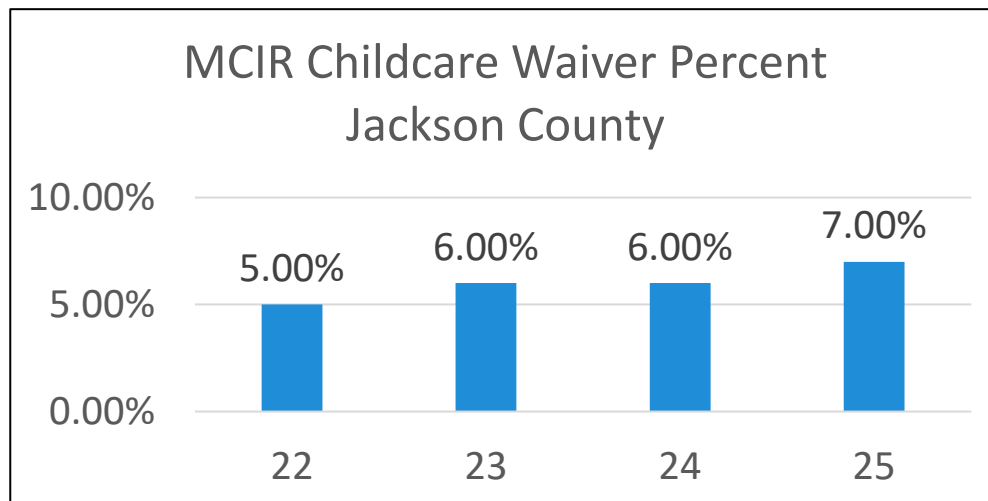
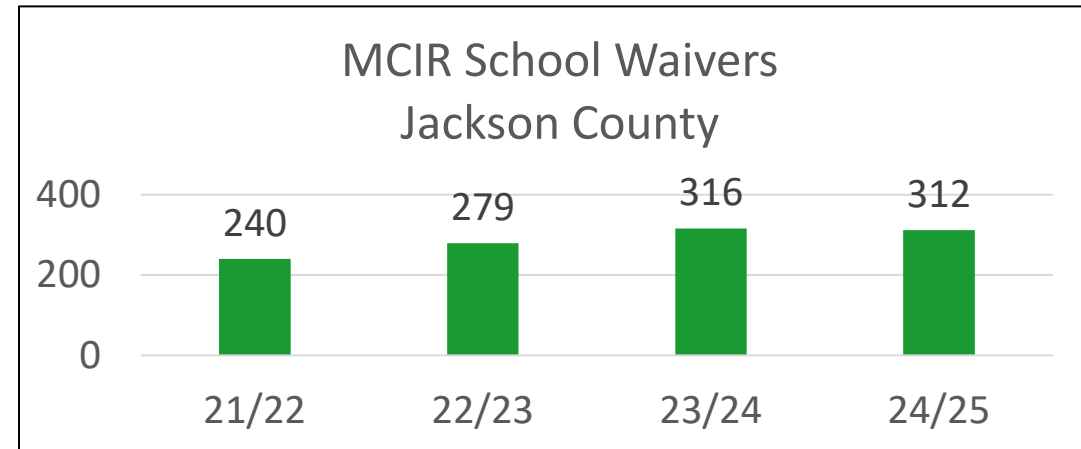
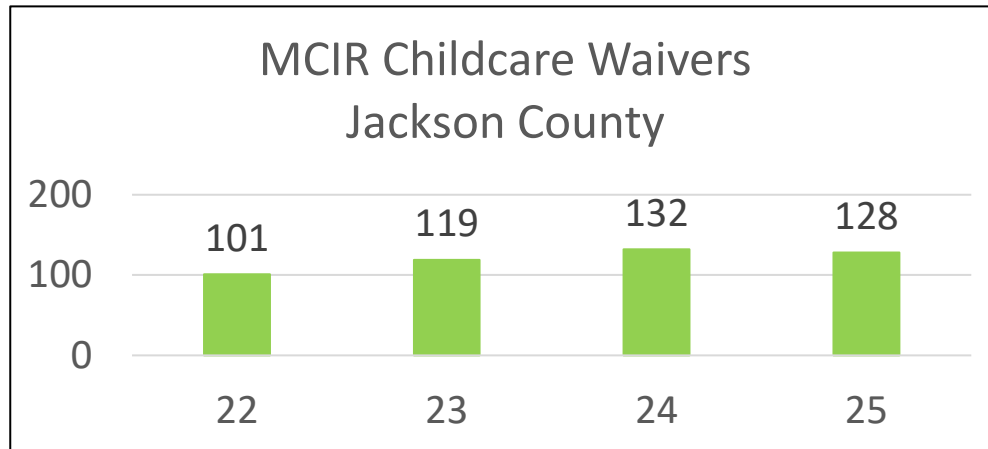
# Time and Money Saved

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	<b>In-Person Education by Nurse</b>	<b>Hybrid- signing appt. by Nurse</b>	<b>Hybrid- signing appt. by Clerk</b>
<b>Appointment length</b>	30 minutes	5 minutes	5 minutes
<b>Staff time</b>	500 hours	83 hours	83 hours
<b>Estimated cost</b>	<b>\$53,500</b>	<b>\$8,881</b>	<b>\$4,307</b>

**\*Total savings 417 staff hours per year**

# MCIR Waiver Rates - Jackson



# Revisiting Our Catalysts for Change

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▶ Is the Waiver Education beneficial?

*Post survey results and in-person feedback indicate clients are satisfied with the Virtual Waiver Education process and have expressed they found the information to be beneficial.*

▶ Is the information presented/given in a format that clients were receptive to?

*Post survey results and in-person feedback indicate clients prefer to complete the waiver education online and sign the waiver in person.*

▶ What is our goal in providing the information?

*To provide good information on the signs and symptoms of vaccine-preventable diseases, the benefits of vaccination and the risks of disease – in the most beneficial manner to our clients.*

▶ ***Are we providing the information, meeting the needs of our clients, and meeting the requirements of the public health code in a format that is beneficial for our clients and our staff?***

# Additional Benefits....

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- Staff report more positive interactions and less mental stress/emotional toll
- Shorter, more productive appointments with higher-quality conversations
- Most families report increased satisfaction with new waiver process

# Cost Savings



# Statewide Implications

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Due to the success of the hybrid waiver process, MDHHS has decided to implement a statewide version in 2026 using LCHD and JCHD as the framework.

# Benefits

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1. Generated substantial cost savings
2. Enabled overextended public health nursing staff to reallocate time toward other essential public health services
3. Reduced adversarial interactions with families improving both staff and client satisfaction
4. Allowed for the delivery of standardized, consistent educational content to families



Thank you!

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