

AIRA 2017 – Chicago, IL

# IIS and VFC working together to Effectively Lean Engineer Enrollment

April 12, 2017

Driving Daily Business Processes

Presented by: **Darrin J Rosebrook**  
AMCI Health Informatics

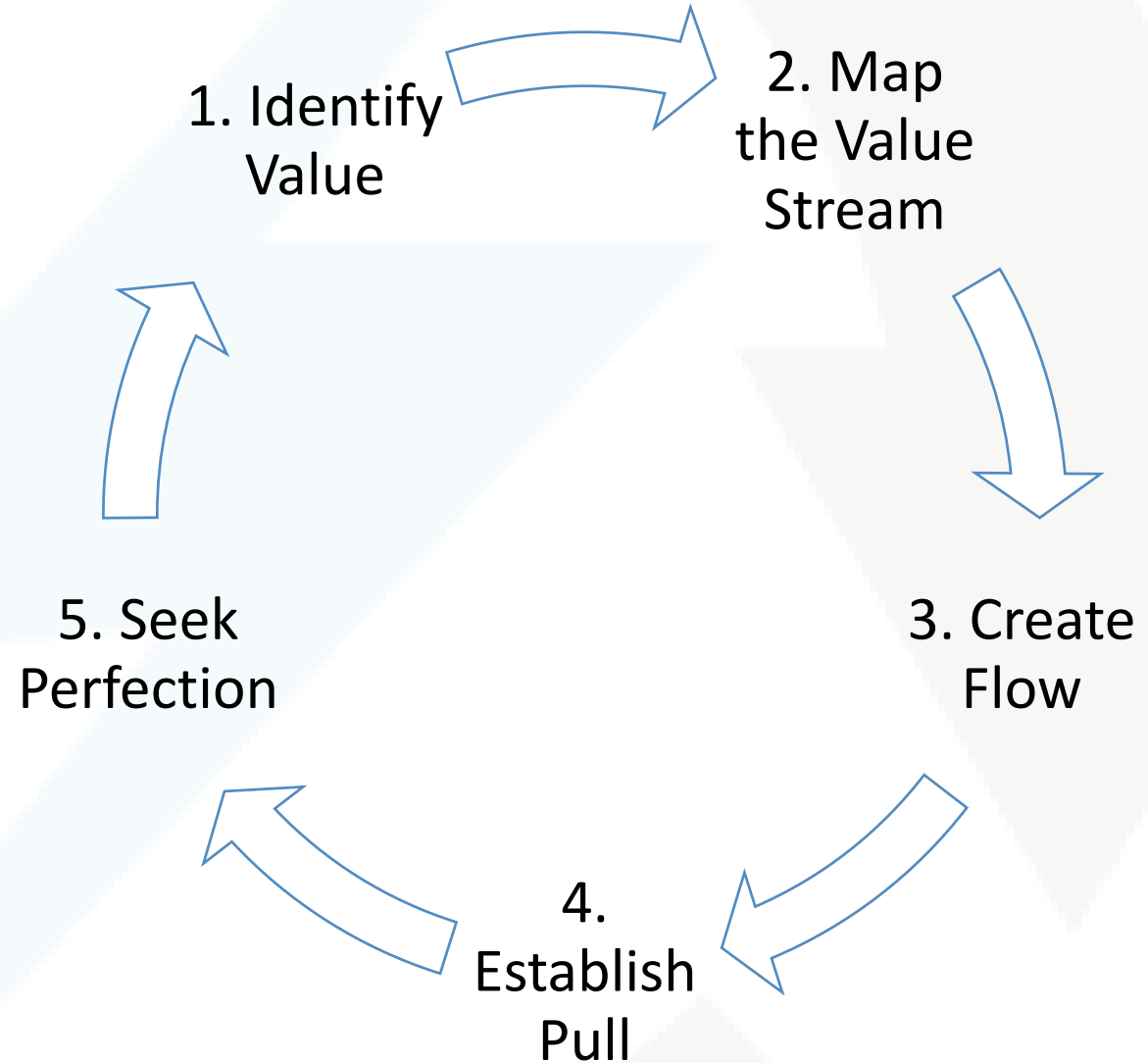
CoPresenter: **Brittany Ersery, MSW**  
Kansas Immunization Program

# What is the Goal of Lean Engineering?

**The goal of lean is to eliminate waste—the non-value-added components in any process.**

# Lean Engineering: 5 Key Principals

The Five Step Process for guiding the implementation of lean techniques, according to the Lean Enterprise Institute.



# Lean Engineering: 5 Key Principles

Defining 5 Key Principles	
Identify Value	Value is defined as the end goal.
Map the Value Stream	<p>Identifying all components and tasks in the process, then eliminating waste.</p> <p>Waste = any task or component in the process which adds unnecessary time or cost to achieving the end goal</p>
Create Flow	After waste is removed from the value stream, ensure the remaining steps flow smoothly with no interruptions, delays, or bottlenecks.
Establish Pull	Make it easy for the customer to pull the product as needed.
Seek Perfection	Constantly review processes for improvements.

# Lean Engineering: 5 Key Principles

## 5 Key Principals applied to Kansas' Annual VFC Enrollment

### Identify Value

FASTER Annual VFC Enrollment

### Map the Value Stream

Waste = All unnecessary tasks associated with Paper-laden processes

### Create Flow

- Increase Visibility
- Add Integrated Workflows – Enrolling Provider becomes part of the process
- Enforce Conformance of data and process
- Add activity logging, which requires no manual data entry

### Establish Pull

Leverage existing system to support Online Enrollment and Approval Process.

### Seek Perfection

Constantly review processes for improvements.

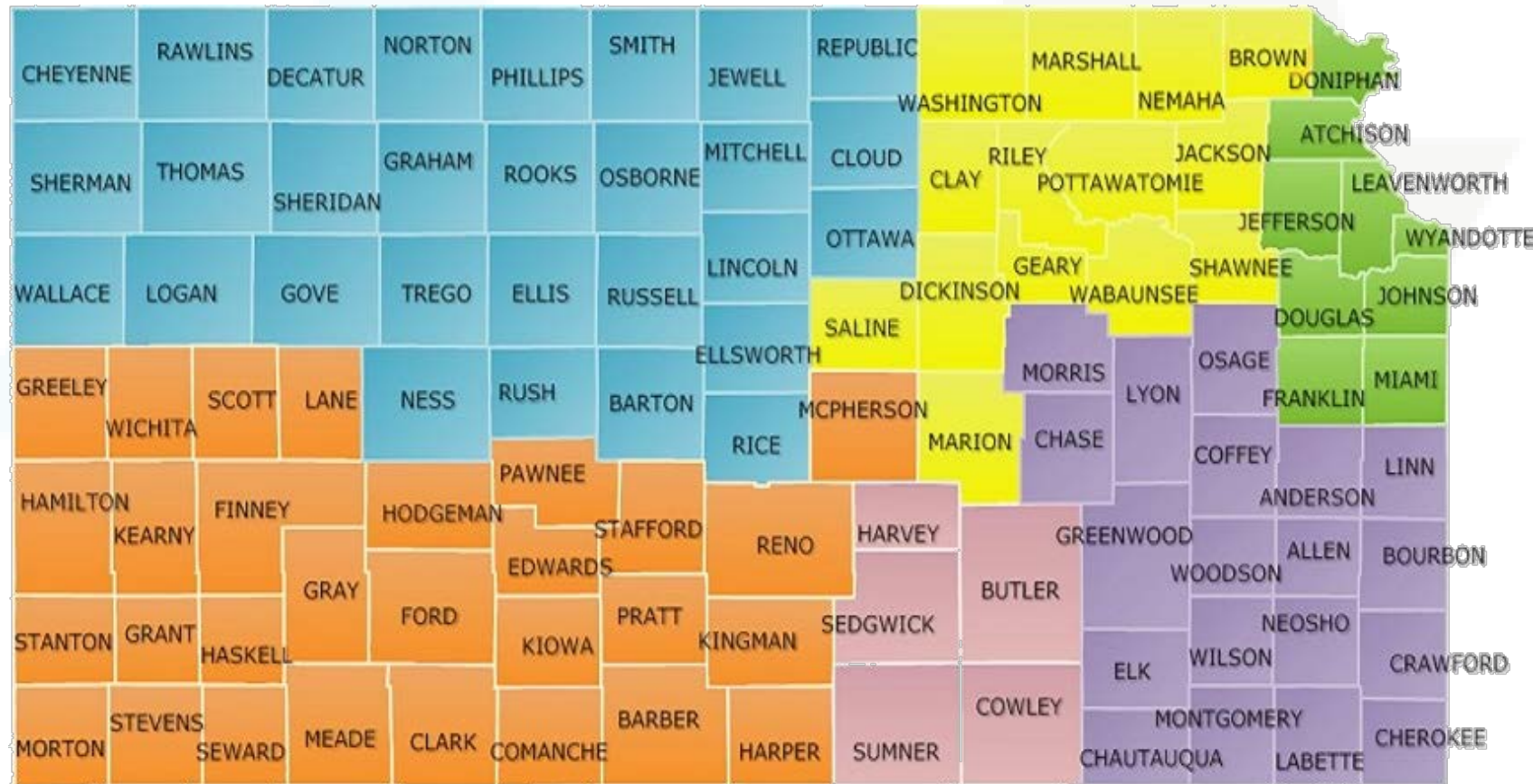
# KIP Regional VFC Support

386 Providers • 105 Counties • 6 Support Regions • 4 VFC Nurses

## 2014 VFC Enrollment Stats

Start to Finish: 246 Days  
(8.2 Months)

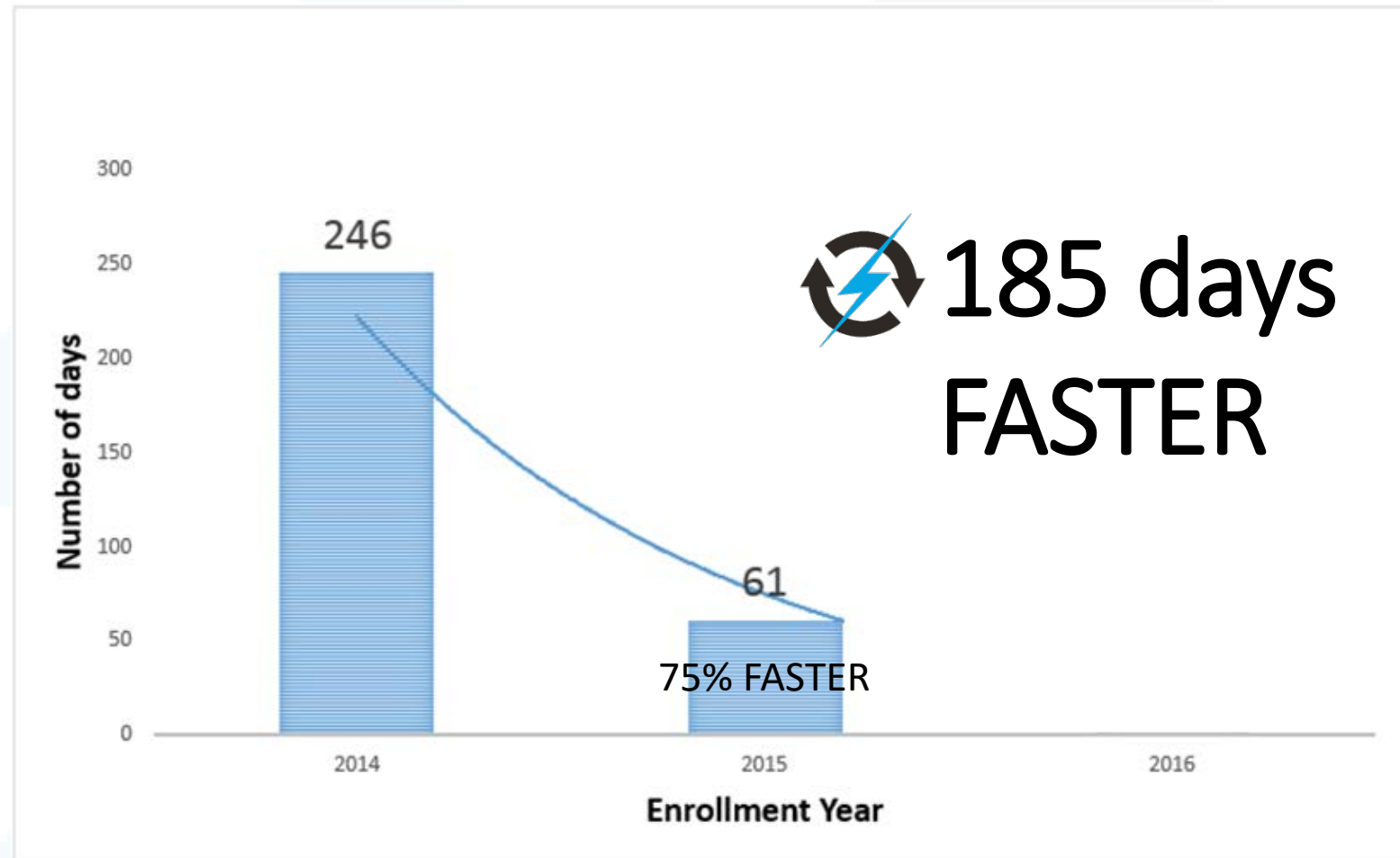
- 30 days to Print and Package Forms and Booklets
- 10 for Certified Mail Delivery
- 206 Days to receive and approve enrollments



# VFC Enrollment Results 2015

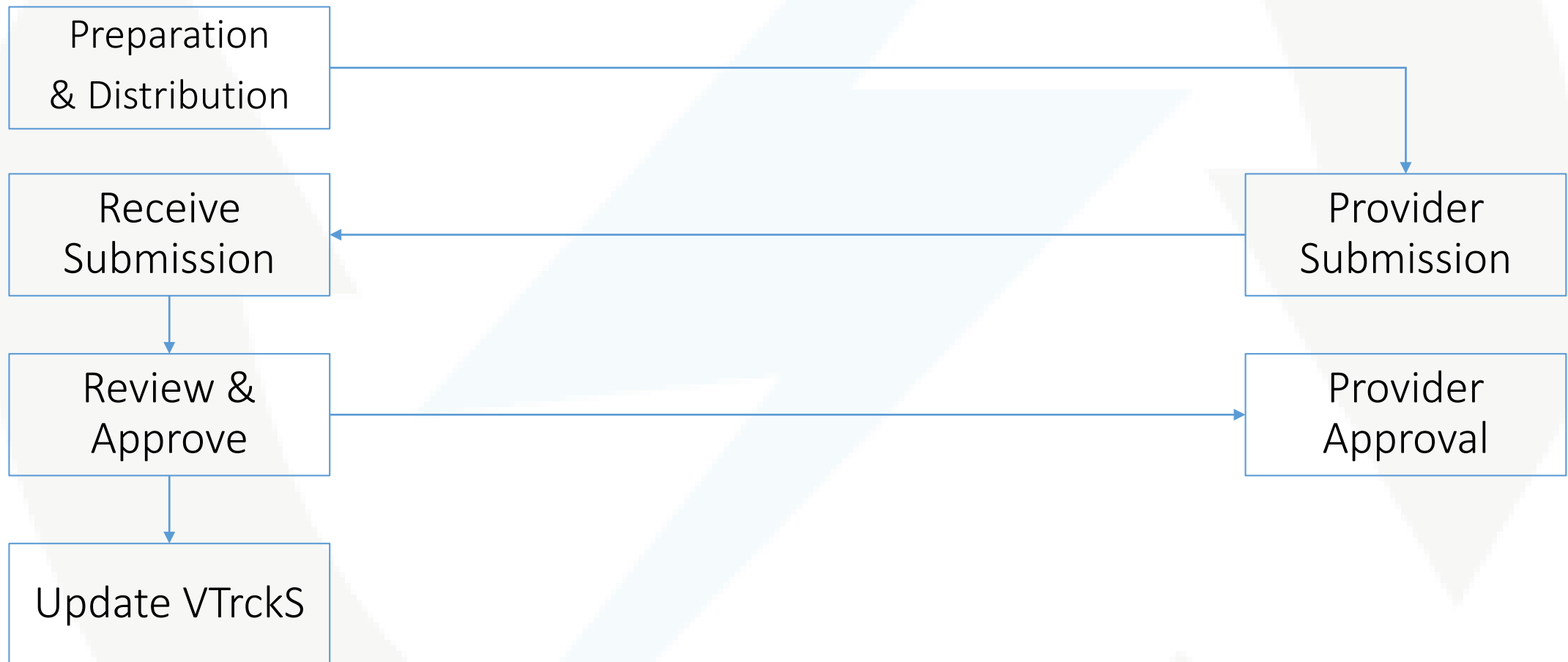
## 2015: Year 1 Results

- Start to Finish: 185 Days faster than 2014
- VFC program gains 185 days (over 6 months) to focus on
  - Provider Education
  - Site Visits
  - Compliance Issues
  - Follow Up



# Lean Engineering: Value Stream

## Kansas' High-Level VFC Re-Enrollment Process





# Lean Engineering: Value Stream

## Preparation & Distribution: Identifying Waste

Value in This Phase – Get the right information and VFC Forms to Provider

### Associated Tasks

- Identify VFC Form Updates
- Make Updates
- Print forms and booklets
- Package forms and booklets
- Print mailing labels
- Apply mailing labels
- Mail (certified) to all providers
- WAIT

Has Value

Waste

# Lean Engineering: Value Stream

## Preparation & Distribution: Understanding Value vs. Waste

Value in This Phase – Get the right information and VFC Forms to Provider

	Has Value	Waste	Understanding
Prep	<ul style="list-style-type: none"><li>Identify VFC Form Updates</li><li>Make Updates</li></ul>		<ul style="list-style-type: none"><li>Necessary tasks to ensure compliance with CDC and state guidelines</li></ul>
Distribution		<ul style="list-style-type: none"><li>Print out forms and booklets</li><li>Package all forms and booklets</li><li>Print out mailing labels</li><li>Apply mailing labels</li><li>Mail (certified) to all providers</li></ul>	<ul style="list-style-type: none"><li>Had value in the past</li><li>No longer necessary with modern technology.</li><li>Wasted time and money.</li><li>However, still need to get packets in the hands of the provider.</li></ul> <p>Need a better Distribution method.</p>
Abyss		<ul style="list-style-type: none"><li>WAIT</li></ul>	<ul style="list-style-type: none"><li>After mailing, no visibility into provider actions. Want VISIBILITY.</li></ul>

# Lean Engineering: Creating Flow

## Preparation & Distribution: Online Enrollment

### Eliminates Waste

- Paper
- Fax and Mail

### Should Reduce Time by 40 days

- 30 days to Print and Package Forms and Booklets
- 10 for Certified Mail Delivery



### Proactively Kicks off Process and Workflow



### It is Time to Complete VFC Enrollment

2015 VFC Enrollment is Due on or before 03/01/2015

**VFC Enrollment is now online. There are 4 steps that must be completed.**

**Step 1.** Clinic and Contacts

**Step 2.** VFC Provider Profile

**Step 3.** Immunization Profile

**Step 4.** Prescribing Providers

After entering all required information for each step, you will need to PRINT and Submit a signed copy of the 2015 VFC Provider Agreement. [Click the Start VFC Enrollment option below to get started.](#)

[Go to Main page](#)











[Start VFC Enrollment](#)

# Lean Engineering: Establish Pull

## Preparation & Distribution: Instant Access to Enrollment

- Broadcast Email Prompts Enrollment
- Provider can access Enrollment at any time
- Completion Status Displayed
- Can Save and Return

**Get Started . . .** Click below to complete tasks to finish setting up your clinic's account.

 <b>Usage Agreement</b> Complete & Submit re <a href="#">Submit New Clinic</a>  <a href="#">IIS User Agreement</a>  <a href="#">HL7 User Security</a>	 <b>Vaccines for Children</b> <b>Enrollment Status</b> <b>Started On:</b> 02/03/2015 <b>By:</b> Nurse Smith  <b>Step 1 of 4 Completed</b> <b>Last Updated On:</b> 02/03/2015 <a href="#">Click to Continue VFC Enrollment</a>	 <b>&amp; Contacts</b> nd users that will need to this site and the IIS. mmunization Contact Contact for Data Added  <b>Meaningful Use Immunization Reporting</b> <a href="#">Download Exclusion Letter</a> <a href="#">Download Intent Registration Form</a>
 <b>Training</b> <a href="#">View Training</a> <a href="#">Request Tr</a> <a href="#">Register for Webi</a> <a href="#">View Videos i</a>	 <a href="#">View Interface Project</a>  <a href="#">Ongoing Submissions</a>	<b>More Info:</b> <a href="#">View KDHE Meaningful Use Information Page</a> <a href="mailto:MeaningfulUse@kdheks.gov">MeaningfulUse@kdheks.gov</a>

# Lean Engineering: Creating Flow

## VFC Enrollment Status Dashboard

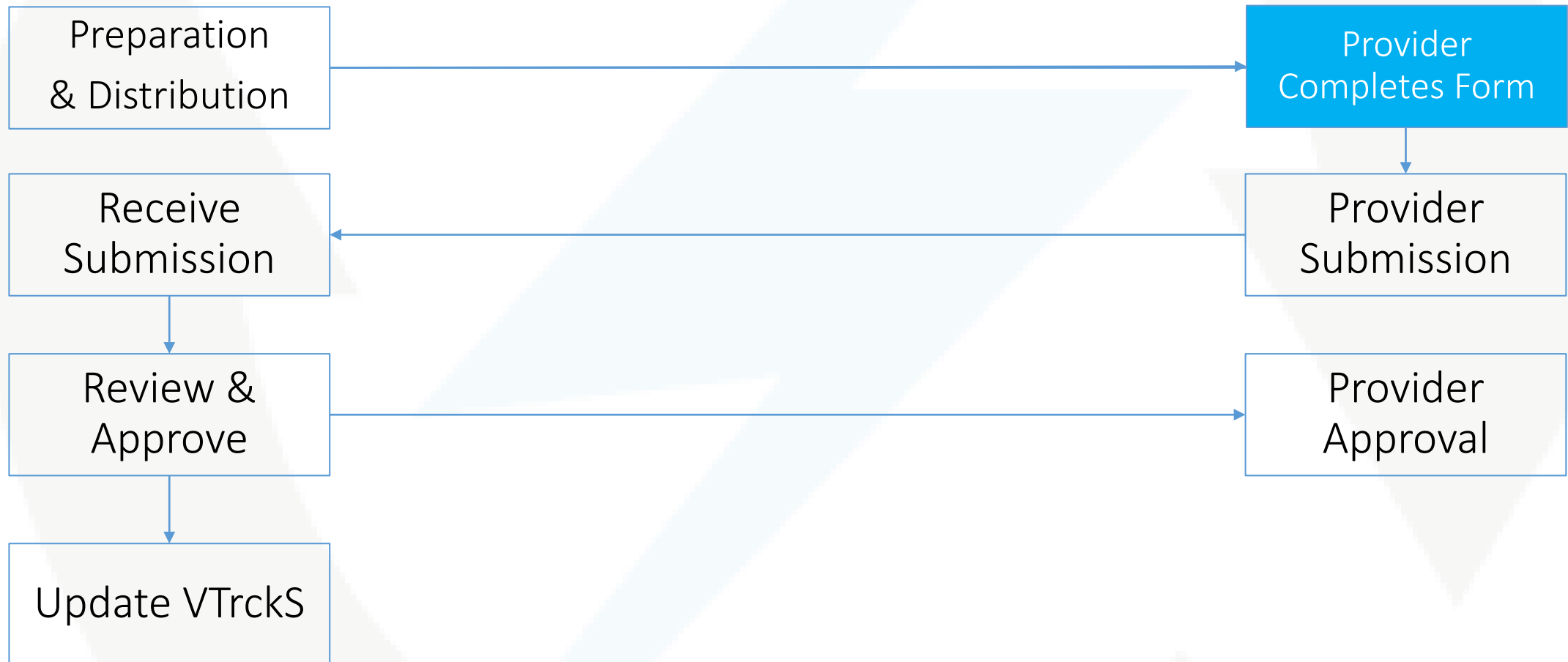
- Populated based User's Regional Assignment
- Complete visibility of enrollment activity and status
- Quick Access to Enrolling Provider's Profile
- Shows who is in queue and where action is needed

## Enrolling Provider Becomes Part of the Process







<u>County</u>	<u>VFC PIN</u>	<u>Provider Site</u>	<u>Contact Name</u>	<u>Status</u>	<u>Submitted Forms</u>	<u>Enrollment Type</u>
LABETTE	6264	<a href="#">Dixit Pediatric Clinic</a>	Nurse Smith	⚠ Pending Approval	✓	Re-Enrollment
ELLIS	0026	<a href="#">Ellis Co Health Dept</a>	Manager Smith	✓ Completed	✓	Re-Enrollment
SEDGWICK	6362	<a href="#">Redwood Family Practice</a>	Dr. Joe	⚠ Pending Approval	✓	Re-Enrollment
SEDGWICK	6488	<a href="#">GraceMed - Virginia and George Ablah Family Clinic</a>	Manager Smith	✓ Completed	✓	Re-Enrollment
THOMAS	2065	<a href="#">Citizens Medical Center</a>	Nurse Test	⛔ Step 3 of 4 Completed Forms Not Submitted	⛔	New Enrollment
ALLEN	6448	<a href="#">Community Health Center of SEK-Iola</a>	Manager Doe	🚩 Disapproved	✓	Re-Enrollment
RILEY	6064	<a href="#">Pediatric Associates of Manhattan, P.A.</a>	Jon Doe	⛔ Step 3 of 4 Completed Forms Not Submitted	⛔	Re-Enrollment
WYANDOTTE	1013	<a href="#">Turner House Children's Clinic</a>	Nurse Doe	⚠ Pending Approval	✓	Re-Enrollment

# Lean Engineering: Create Flow

## Kansas' High-Level VFC Re-Enrollment Process

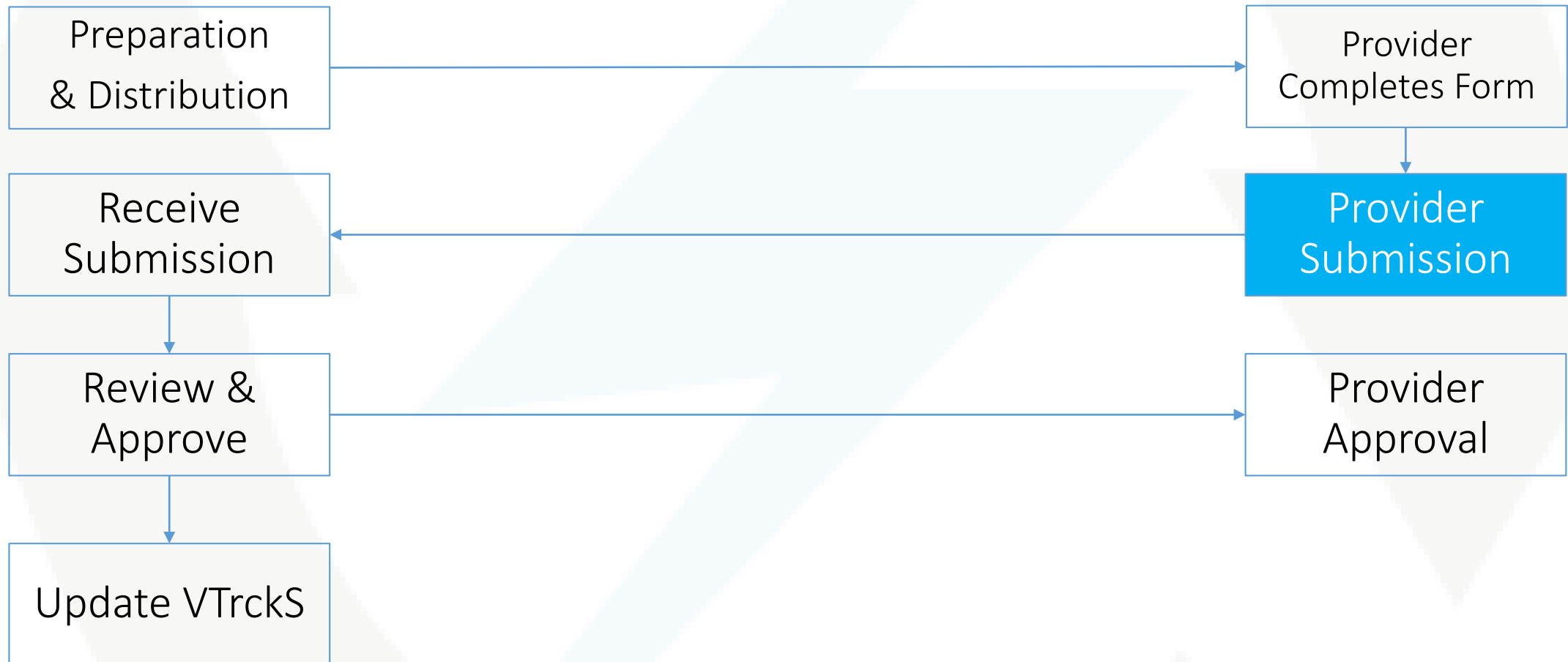


# Lean Engineering: Create Flow – Challenges

Past Challenges	Improved	Solution
Incomplete Form – Missing Information		Step by Step Sequential Process - Enforced completing the entire form
Portions of Form Missing		Online submission inherently solves the issue
Incorrect Areas of Form Completed		Only presenting parts of the form the provider is required to complete - based on VFC Provider type
Missing Signature		Kansas required a wet signature in 2015 – No low cost solution presented itself
Missing Training Certificates		<ul style="list-style-type: none"><li>• Provided method to upload Training Certificates</li><li>• Provided method to request Training Certificates</li></ul>
Missing NPI or Medicaid ID or Med License #		Made fields required
Invalid NPI or Medicaid ID or Med License #		Added edit checks to ensure proper format adherence

# Lean Engineering: Value Stream

## Kansas' High-Level VFC Re-Enrollment Process





# Lean Engineering: Value Stream

## Provider Submission: Identifying Waste

Value in This Phase – Provider Completes and Submits VFC Enrollment Form

### Associated Tasks

- Provider Completes Form
- Provider Signs Form
- Provider Submits Form
- Provider Faxes Form
- OR Provider Mails Form

### Has Value

### Waste

# Lean Engineering: Value Stream

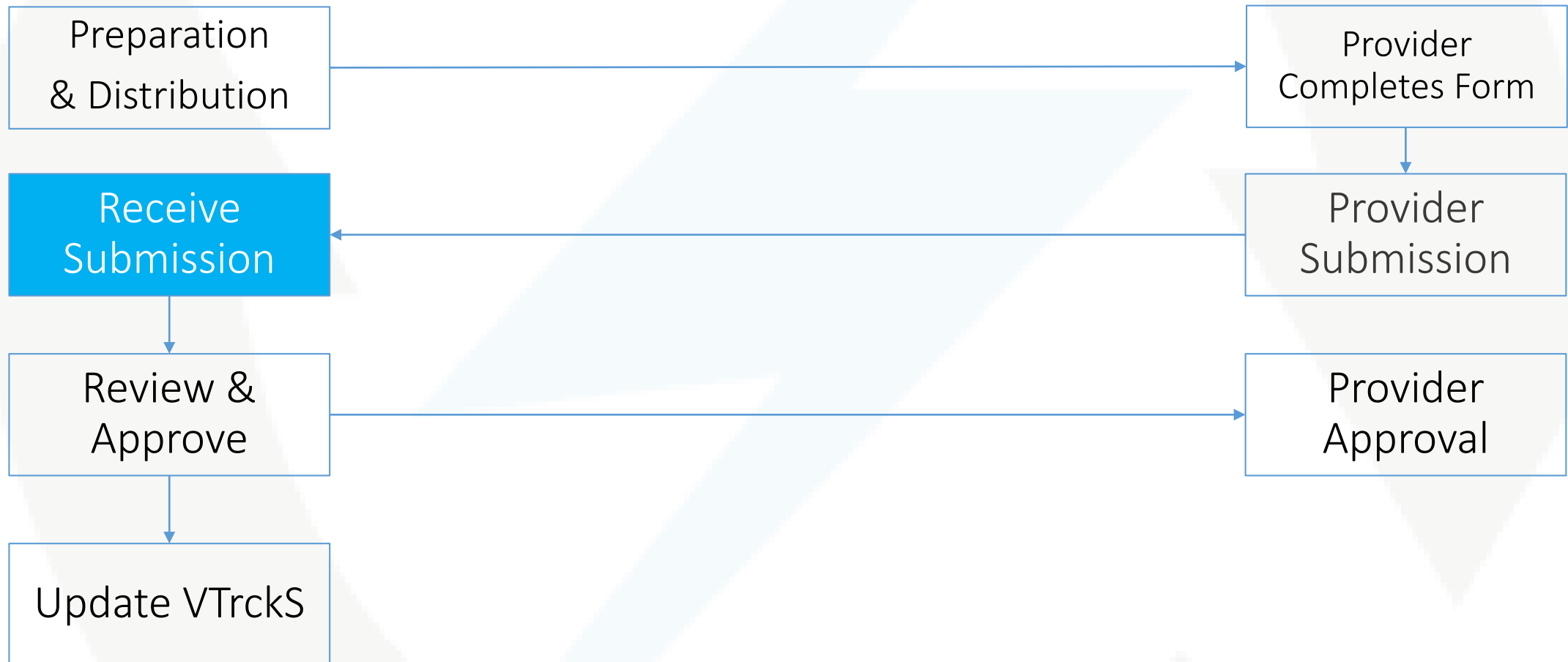
## Provider Submission: Understanding Value vs. Waste

Value in This Phase – Getting Completed VFC Enrollment form from Provider

	Has Value	Waste	Understanding
Complete	Provider Completes Form		<ul style="list-style-type: none"><li>• All areas of the form must be completed<ul style="list-style-type: none"><li>• VFC Profile</li><li>• Benchmarking</li><li>• Shipping Information</li><li>• Prescribing Physicians (Medical Director)</li><li>• Primary &amp; Back Up Coordinators</li></ul></li></ul>
Sign	Provider Signs Completed Form		<ul style="list-style-type: none"><li>• Signature is Mandatory</li></ul>
Submit	Provider Submits Form And Coordinators Training Certificates	Faxes Form Mails Form	<ul style="list-style-type: none"><li>• Provider Must Submit Form &amp; Certificates</li><li>• Faxes are random and inefficient</li><li>• Mail is inefficient</li></ul>

# Lean Engineering: Value Stream

## Kansas' High-Level VFC Re-Enrollment Process



# Lean Engineering: Value Stream

## Receive Submission: Identifying Waste

Value in This Phase – Immunization Program Receives VFC Enrollment From

### Associated Tasks

Form Received

Certificates Received

- by Fax or Mail

Staff Records Receipt in Excel

Staff Scans all documents

Staff Saves Copy on Shared Drive

Staff Files Paper copy in cabinet

Staff Notifies Region VFC Nurse

### Has Value

### Waste

# Lean Engineering: Value Stream

## Receive Submission: Understanding Value vs. Waste

Value in This Phase – Get the right information and VFC Forms to Provider

	Has Value	Waste	Understanding
Receipt	Form Received Certificates Received	- by Fax or Mail	<ul style="list-style-type: none"><li>• VFC Program must receive documents</li><li>• Faxes are random and inefficient</li><li>• Mail is inefficient</li></ul>
Triage		Staff Records Receipt in Excel Staff Scans all documents Staff Saves Copy on Shared Drive Staff Files Paper copy in cabinet	<ul style="list-style-type: none"><li>• Non-relational, used when not better method exists</li><li>• Fax/Mail replaced with digital upload.</li><li>• Wasted time and money.</li><li>• However, still need have documents centrally stored for ubiquitous access.</li></ul> <p>Need a better Triage method.</p>
Route		Staff Notifies Region VFC Nurse	<ul style="list-style-type: none"><li>• After mailing, no visibility into provider actions. <b>Want VISIBILITY.</b></li></ul>

# Lean Engineering: Creating Flow

## VFC Enrollment Status Dashboard

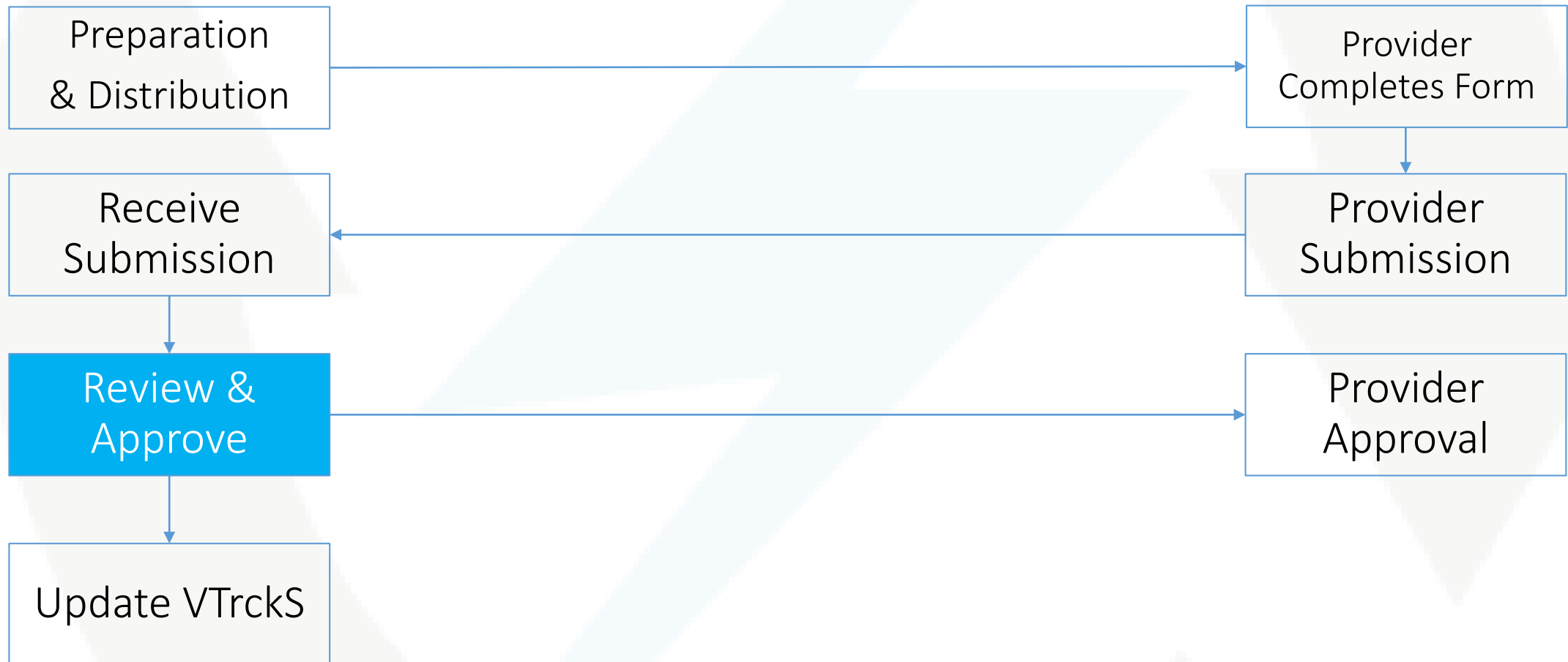
- Submission is Routed to Assigned VFC Nurse
- Status Dashboard updated to Pending Approval
- Quick Access to Enrolling Provider's Profile
- Shows who is in queue and where action is needed

<u>County</u>	<u>VFC PIN</u>	<u>Provider Site</u>	<u>Contact Name</u>	<u>Status</u>	<u>Submitted Forms</u>	<u>Enrollment Type</u>
LABETTE	6264	<a href="#">Dixit Pediatric Clinic</a>	Nurse Smith	⚠ Pending Approval	✓	Re-Enrollment
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Establishes Pull with instant access to Pending Approvals

# Lean Engineering: Step 2. Map the Value Stream

## Kansas' High-Level VFC Re-Enrollment Process



# Lean Engineering: Value Stream

## Review & Approve: Identifying Waste

Value in This Phase – Enrollment Completion, Compliance and Approval

### Associated Tasks

- Review the Enrollment Form
- If Missing Information, Contact Provider
- If CDC Training Certificates Missing, Contact Provider
- Validate Prescribing Provider Credentials
- Check Prescribing Providers against OIG Fraud Database
- Forward to VFC Manager for Final Approval/Rejection
- Inform Provider of Approval/Rejection

### Has Value

### Waste



# Lean Engineering: Value Stream

## Receive Submission: Understanding Value vs. Waste

Value in This Phase – Get the right information and VFC Forms to Provider

Has Value


Waste

Understanding

Review	<ul style="list-style-type: none"><li>• Review the Enrollment Form</li><li>• If Missing Information, Contact Provider</li><li>• If CDC Training Certificates Missing, Contact Provider</li></ul>		All mandatory
Validate	<ul style="list-style-type: none"><li>• Validate Prescribing Provider Credentials</li><li>• Check Prescribing Providers against OIG Fraud Database</li></ul>		
Route	<ul style="list-style-type: none"><li>• Forward to VFC Manager</li><li>• VFC Manager Approves/Disapproves</li></ul>		
Inform	<ul style="list-style-type: none"><li>• Inform Provider of Approval/Disapproval</li></ul>		

# Lean Engineering: Creating Flow

## Integrated Approval Process

Program*	VFC
Prescribing Provider Validation	1 of 1 validated 
Sent for Final Approval	<input type="radio"/>
Final Approval	<input type="radio"/>
More Info Needed	<input type="radio"/>
<input type="checkbox"/> Signature Missing <input type="checkbox"/> Profile Clarification <input type="checkbox"/> Training Certs Missing	
Disapprove (requires explanation)	<input type="text" value=""/>
Comments <input type="checkbox"/> Include comments in email to clinic	<input type="checkbox"/> Copy Me
<div><div></div><div>^</div><div>v</div></div>	


\* Required





- Conformity in Process
- Enforces workflow
- Single Communication Method
- Actions auto-logged, removing need to log activity manually

# Lean Engineering: Creating Flow

## VFC Enrollment Pending Final Approval Dashboard

- VFC Manager's Dashboard
- Populates with Providers Sent of Final Approval
- Quick Access to Enrolling Provider's Profile
- Single Click to view completed VFC form

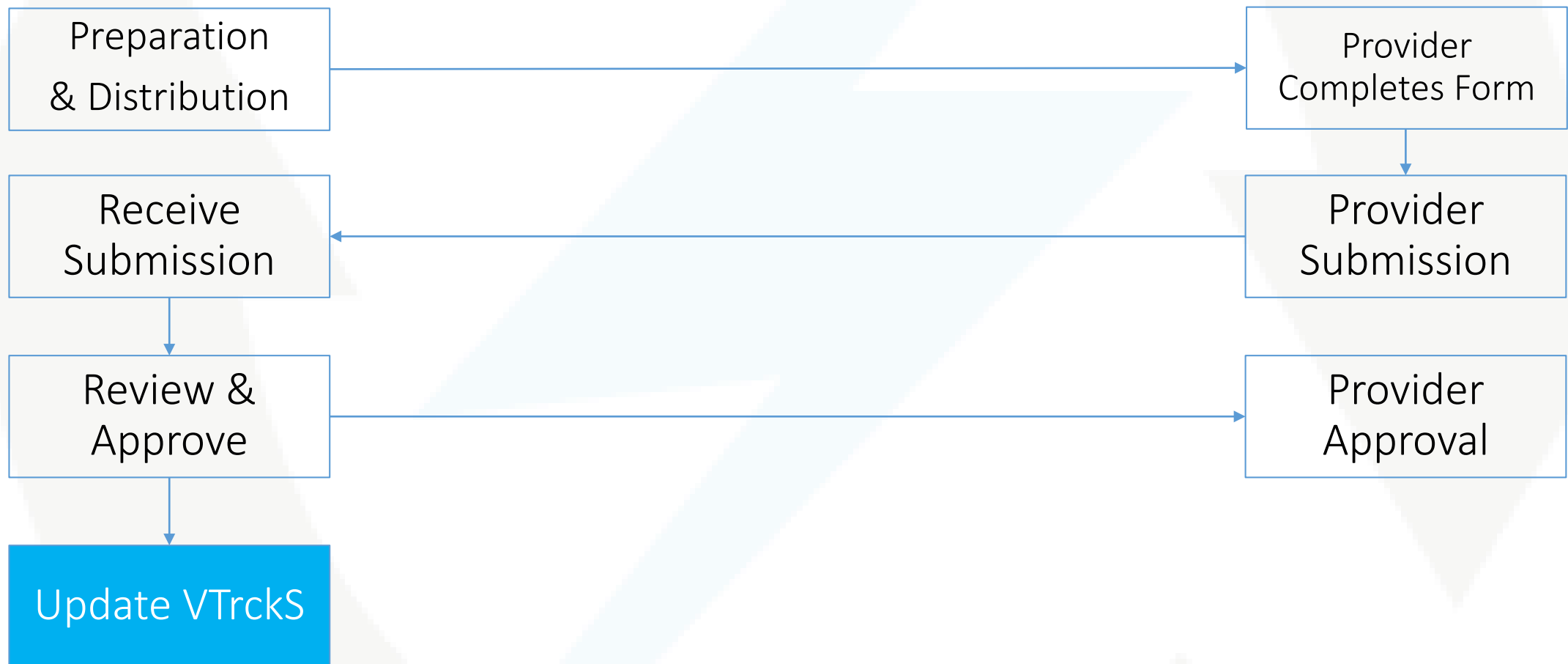
 **VFC - Pending Final Approvals**

#	Enrollment Type	VFC Submitted For	Person Completing Enrollment			VFC Submission Date	Status	View/Approve	Remove
1.	Practice	<a href="#">Augie Doggie Clinic</a>	Molten Lava	(112) 123 1233	<a href="mailto:debiwarren52@gmail.com">debiwarren52@gmail.com</a>	03 11 2017	 Sent for Final Approval	<a href="#">View/Approve</a>	
2.	Practice	<a href="#">Ollie Local Health Department</a>	Deb Warren	(785) 393 9451	<a href="mailto:debiwarren52@gmail.com">debiwarren52@gmail.com</a>	03 04 2017	 Sent for Final Approval	<a href="#">View/Approve</a>	

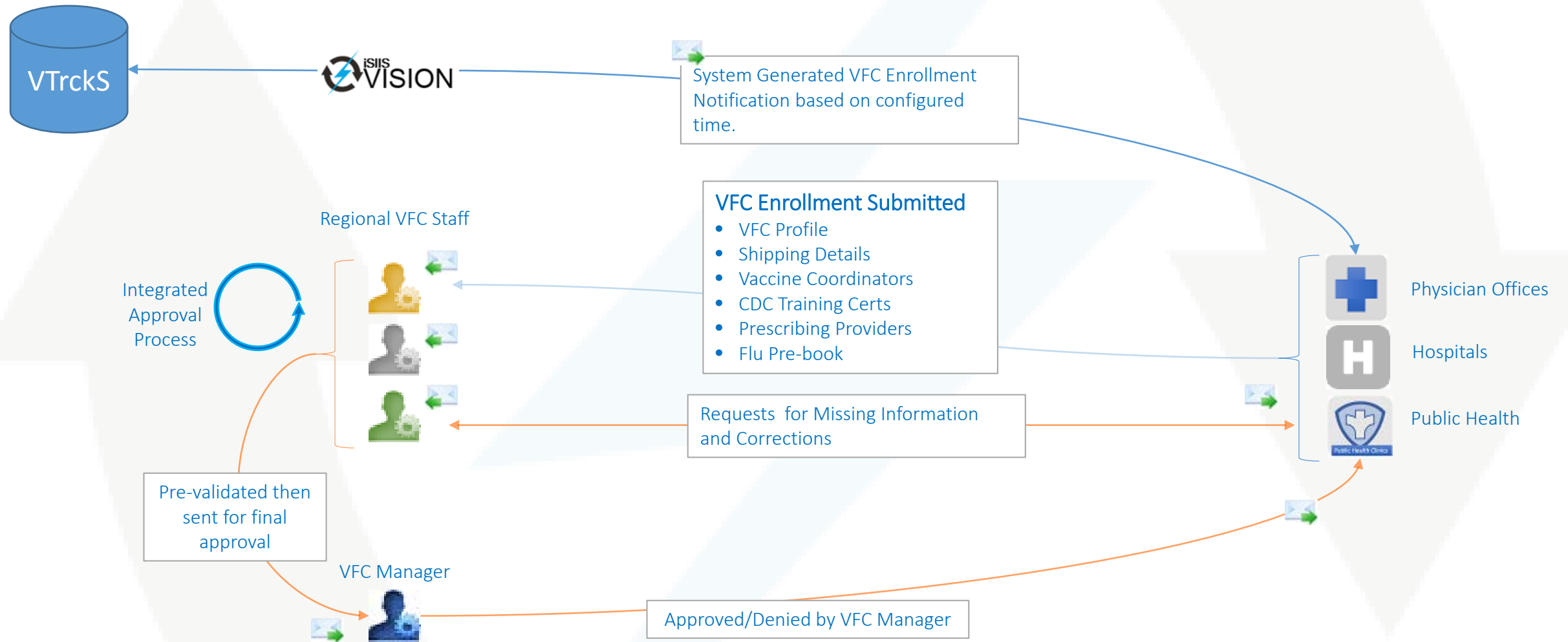
Establishes Pull with instant access to Final Approvals

# Lean Engineering: Value Stream

## Kansas' High-Level VFC Re-Enrollment Process



# KIP Annual VFC Enrollment – Updated Workflow



# Lean Engineering: Seeking Perfection

## Year 2 Additional Improvements

### Electronic Signature

- Kansas alleviated the requirement of a wet signature
- Eliminated missing signatures

Improved



### Flu Pre-Book

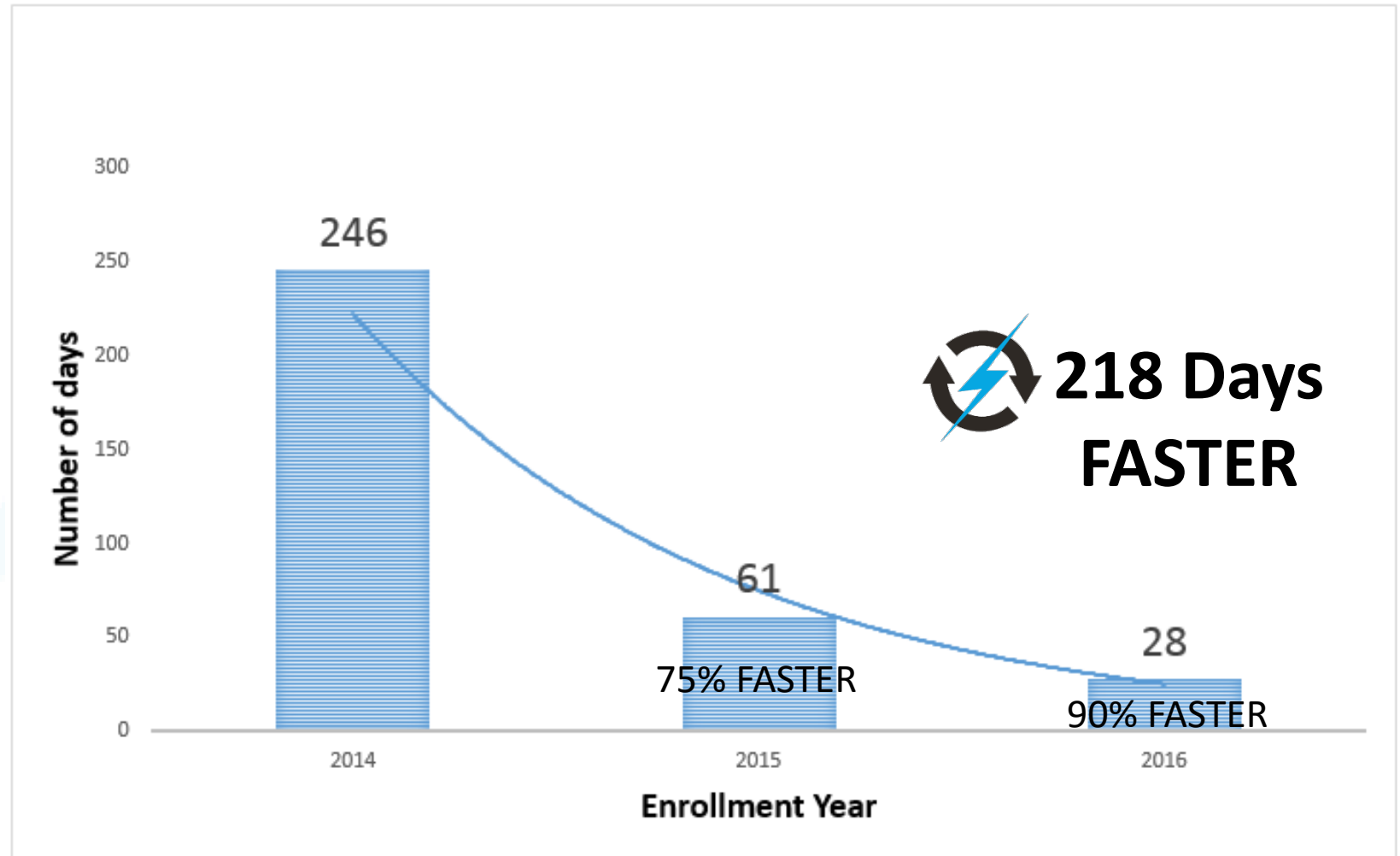
- Enforced Flu Pre-book submission by adding it to the VFC Enrollment Process

We added more work to the Provider by adding Flu Pre-Book. Will this have a negative impact?

# Self-Serve VFC Enrollment Results

## 2016 Year 2 Results

- Start to Finish: 2 days less than paper packet prep in 2014
- VFC program gains 218 days (over 7 months) to focus on
  - Provider Education
  - Site Visits
  - Compliance Issues
  - Follow Up



# Lean Engineering: Seek Perfection

## Year 3 Additional Improvements

### Remaining Challenges

- Validating Prescribing Providers
  - Medical License
  - Medicaid Number
  - National Provider ID
- Performing Fraud Checks

### Solution

- Established Automated Real-time Validation
  - OIG Fraud Database
  - & NPI Registry



Happens during form completion.

More accuracy and completeness of data submitted.



# Lean Engineering: Seek Perfection

## Year 3 Additional Improvements

### New Challenges

Many corrections were needed for Flu Pre-book submissions in 2016

### Solution

Introduced a new approval workflow for Flu Pre-book submissions

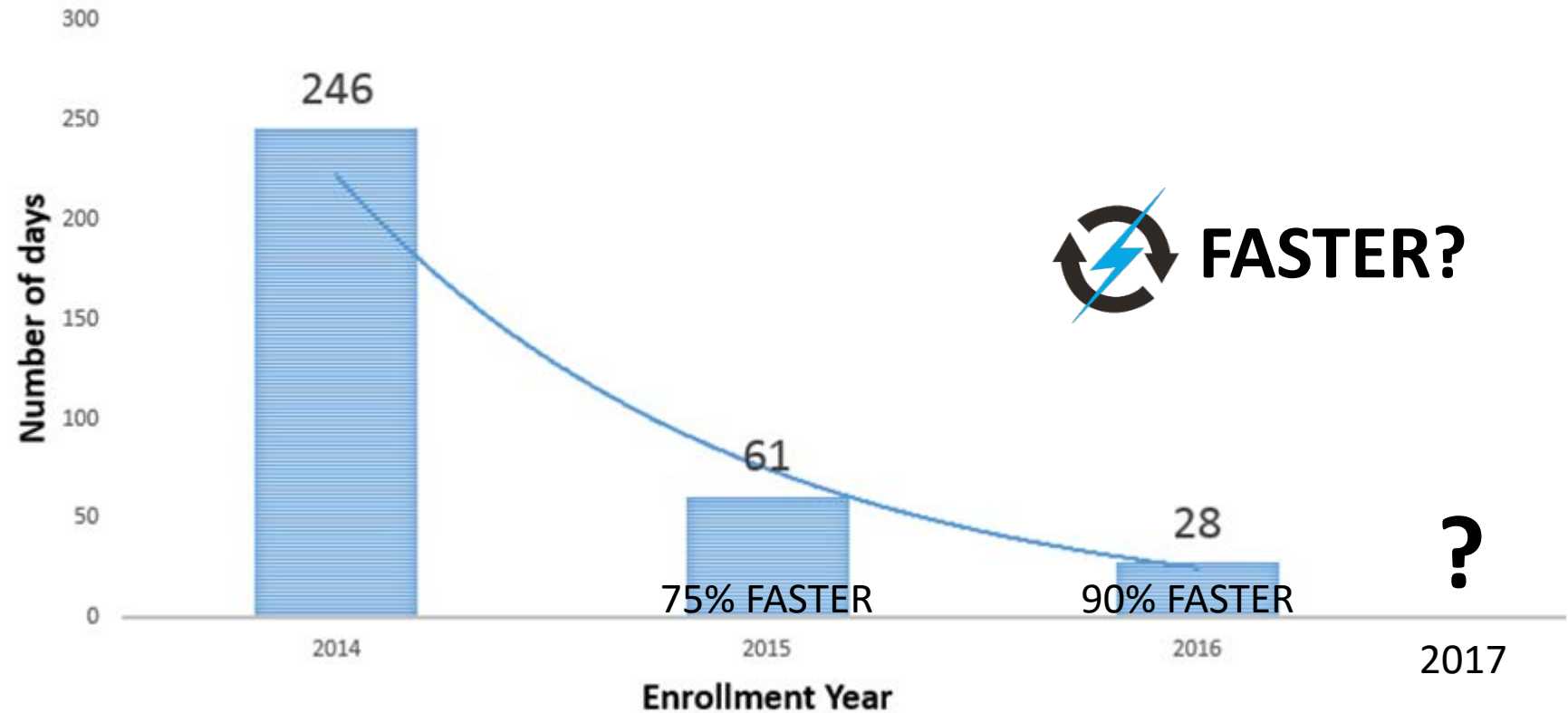
VFC Pre-book Flu		Status: ⚠ More Information Requested			View Archived: 2017		▼
Manufacturer	Brand	Age	Presentation	VFC # doses	CHIP # doses	317 # doses	
GSK	Fluarix Quad (IIV4)	36mos+	10 1 dose syringes	✓ 100	⚠ 100	✓ 0	
GSK	Flulaval Quad	6mo+	10 1 dose syringes	✓ 100	❓ 0	✓ 0	
Sanofi	Fluzone Quad (IIV4)	36mos+	10 1 dose vials	✓ 10	❓ 0	✓ 0	
Sanofi	Fluzone Quad (IIV4)	36mos+	10 1 dose syringes	✓ 10	❓ 0	✓ 0	
Sanofi	Fluzone Quad (IIV4)	6-35mos	10 1 dose syringes	✓ 10	❓ 0	✓ 0	
							Review & Approve

# Self-Serve VFC Enrollment Results

## 2017 Year 3 Results

?

Stay Tuned!



# Contact

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