AIRA 2018 – Salt Lake City, Utah

IIS and VFC working together to Effectively Lean Engineer Enrollment

August 15, 2018

Driving IIS Daily Business Processes

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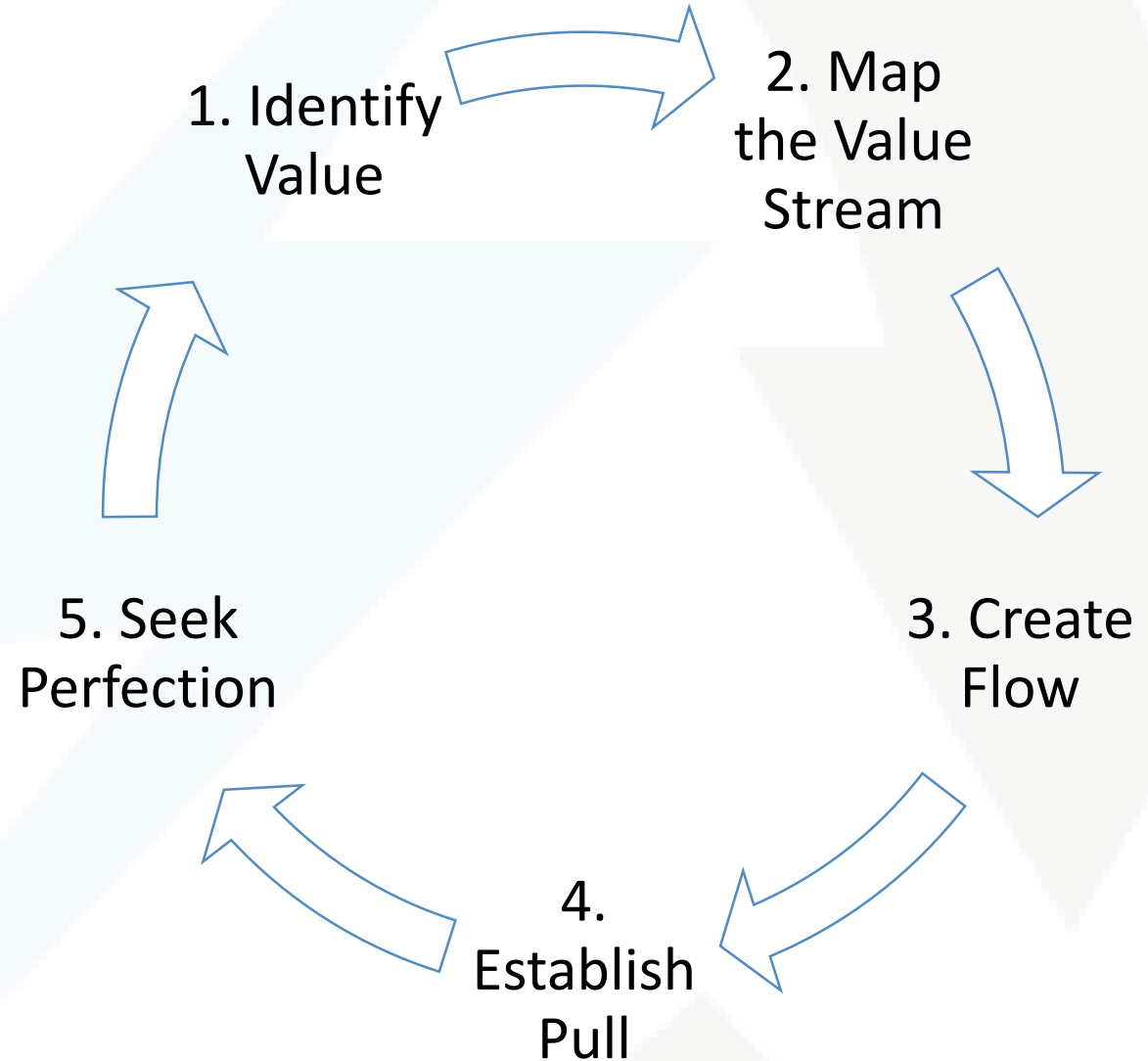
AMCI Health Informatics

CoPresenter: **Kimbra Nemmers**

Kansas Immunization Program

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

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Lean Engineering: 5 Key Principals

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

1. Identify Value

2. Map the Value Stream

3. Create Flow

4. Establish Pull

5. Seek Perfection

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Lean Engineering: 5 Key Principles

Defining 5 Key Principles	
Identify Value	Value is defined as the end goal.
Map the Value Stream	Identifying all components and tasks in the process, then eliminating waste. Waste = any task or component in the process which adds unnecessary time or cost to achieving the end goal
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.

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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.

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KIP Regional VFC Support

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

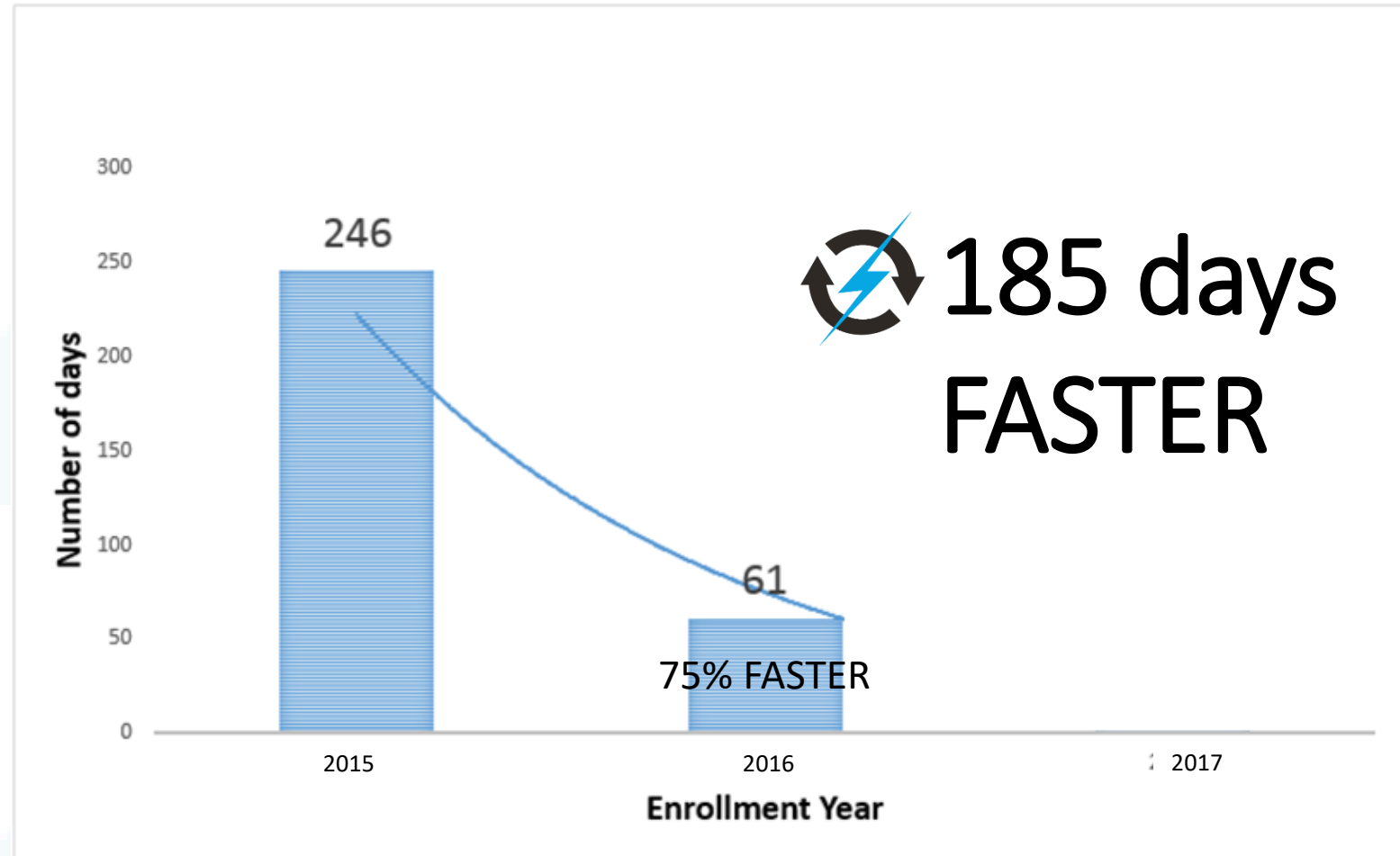## 2015 VFC Enrollment Stats

Start to Finish: 246 Days (8.2 Months)

- 30 days to Print and Package Forms and Booklets
- 10 for Certified Mail Delivery
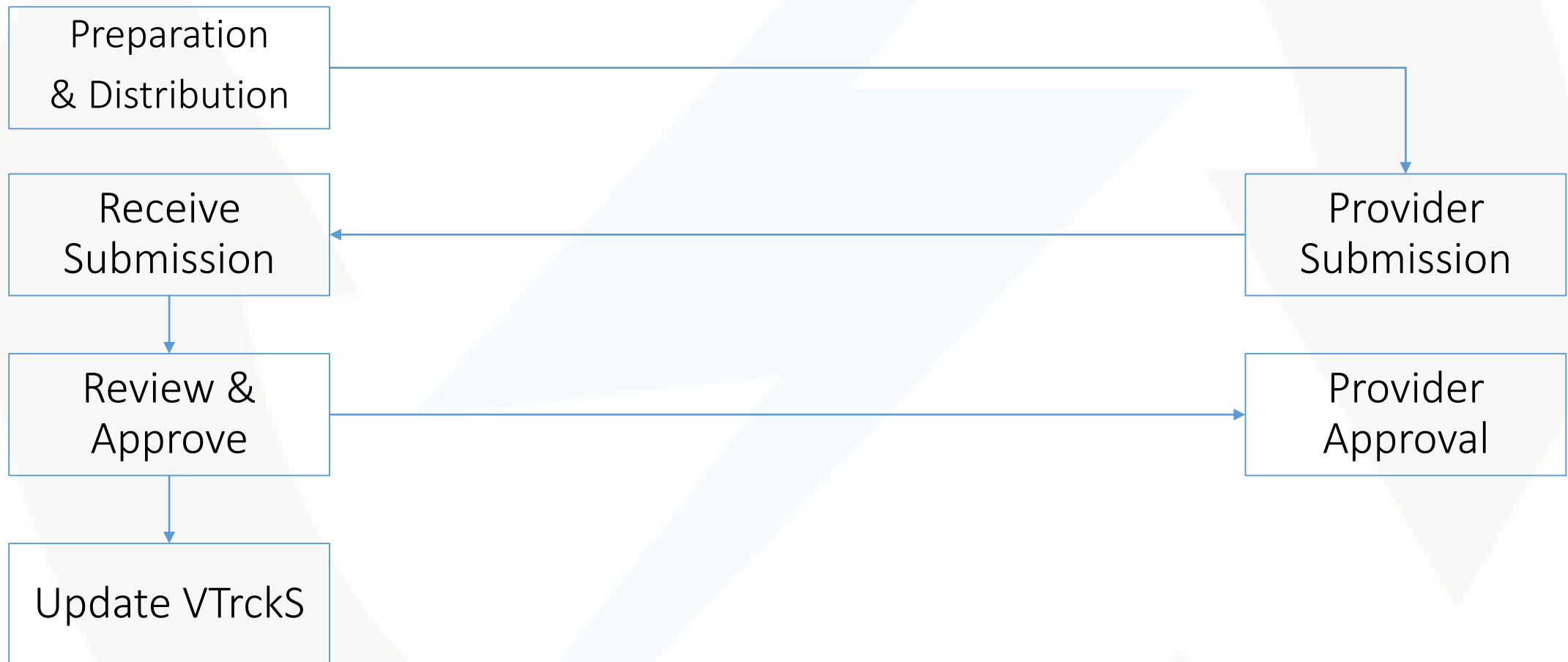- 206 Days to receive and approve enrollments
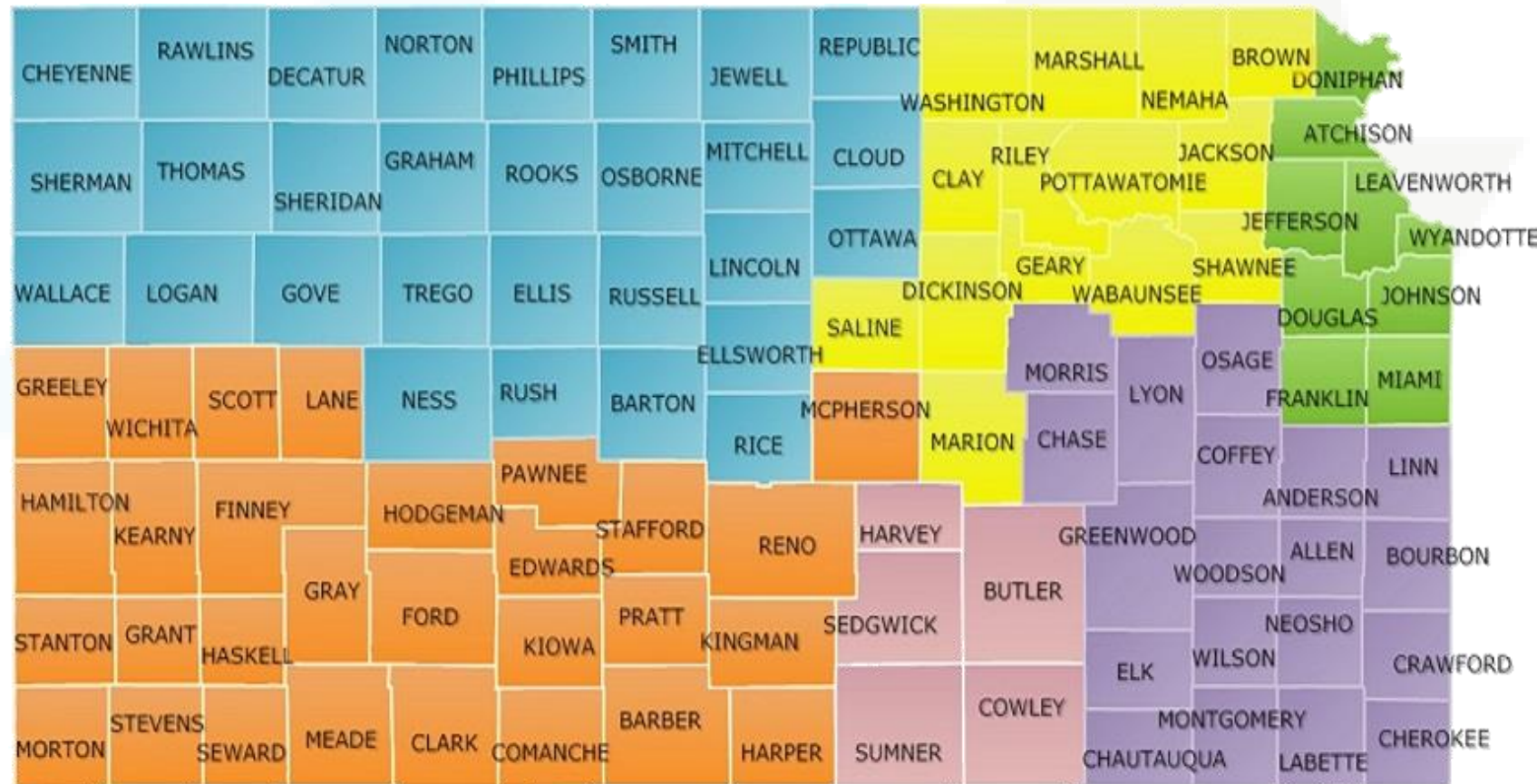
2016: Year 1 Results

- Start to Finish: 185 Days faster than 2015

- VFC program gains 185 days (over 6 months) to focus on
  - Provider Education
  - Site Visits
  - Compliance Issues
  - Follow Up

185 days FASTER

Lean Engineering: Value Stream

Kansas' High-Level VFC Re-Enrollment Process

Preparation & Distribution: Identifying Waste

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

Associated Tasks	Has Value	Waste
• 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		

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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	• Identify VFC Form Updates • Make Updates		• Necessary tasks to ensure compliance with CDC and state guidelines
Distribution		• Print out forms and booklets • Package all forms and booklets • Print out mailing labels • Apply mailing labels • Mail (certified) to all providers	• Had value in the past • No longer necessary with modern technology. • Wasted time and money. • However, still need to get packets in the hands of the provider. Need a better Distribution method.
Abyss		• WAIT	• After mailing, no visibility into provider actions. Want VISIBILITY.

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

2016 VFC Enrollment is Due on or before 03/01/20   2017

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

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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.

Usage Agre...

Complete & Submit re...

Submit New Clini...

🚫 IIS User Agreeme...

🚫 HL7 User Security...

Training C...

View Training...

Request Tr...

Register for Webi...

View Videos i...

...c Production Testing

♻ View Interface Project

🚫 Ongoing Submissions

Vaccines for Children

Enrollment Status

Started On: 02/03/2016

By: Nurse Smith

♻ Step **1 of 4** Completed

Last Updated On: 02/03/2016

Click to Continue VFC Enrollment

& Contacts

...nd users that will need to ...this site and the IIS.

...munization Contact

...Contact for Data

...Added

...ningful Use
...munization
...eporting

...nload Exclusion Letter

...nload Intent Registration
Form

More Info: View KDHE Meaningful Use
Information Page
MeaningfulUse@kdheks.gov

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Lean Engineering: Creating Flow
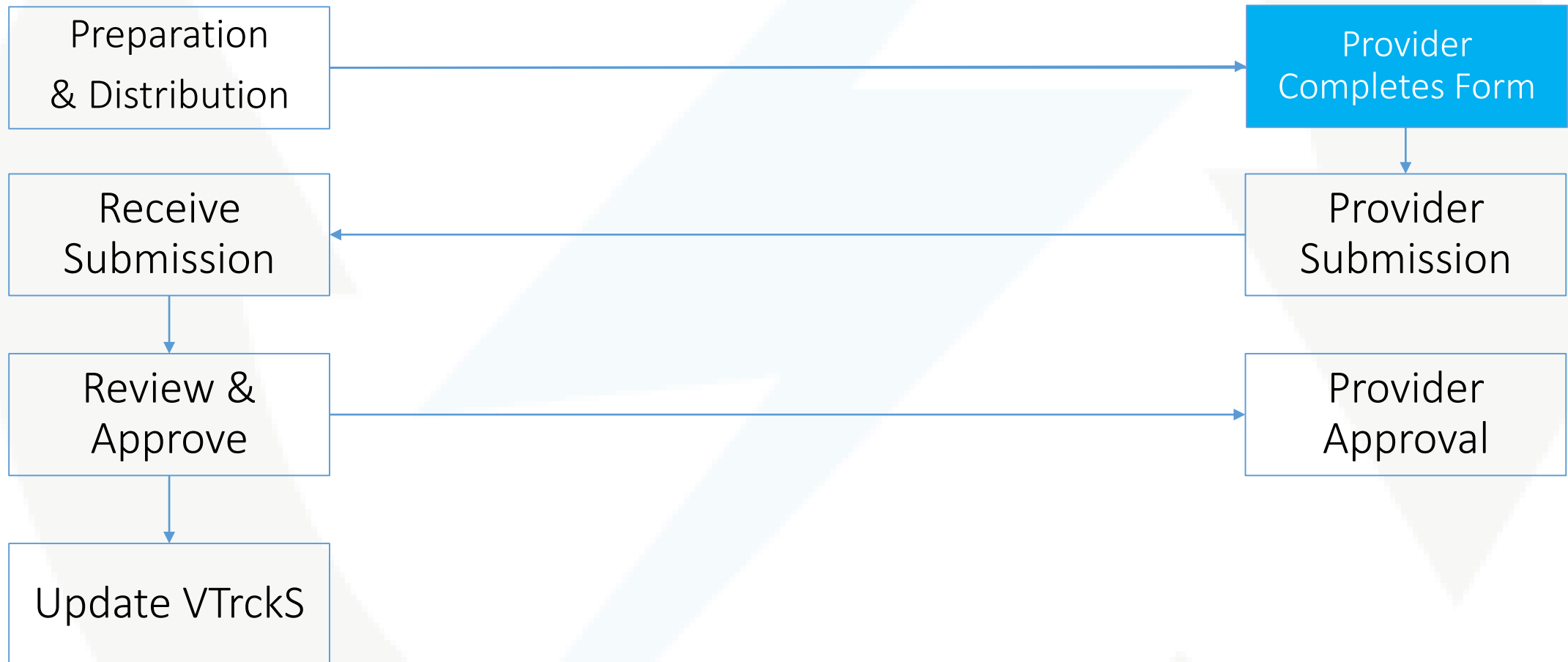
VFC Enrollment Status Dashboard

- 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

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

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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 2016 – No low cost solution presented itself
Missing Training Certificates	✓	• Provided method to upload Training Certificates • Provided method to request Training Certificates
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
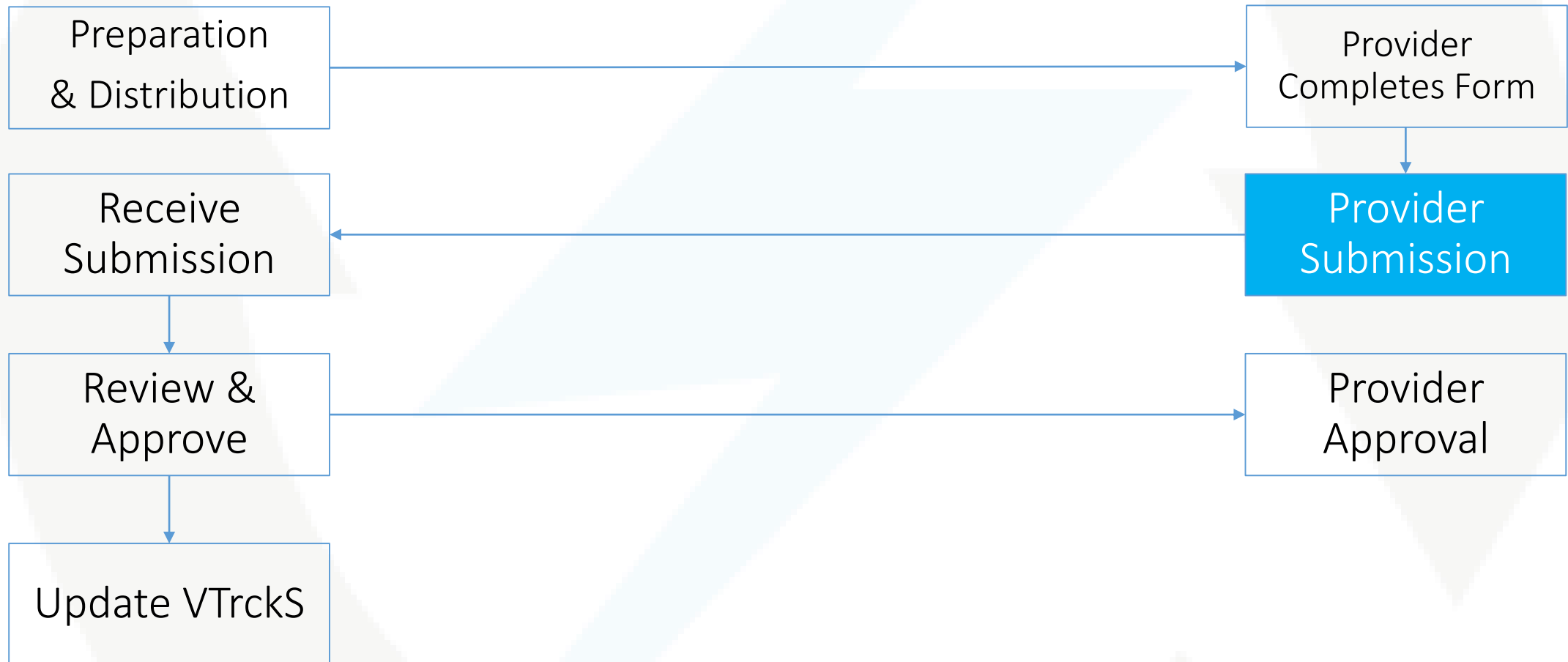
Provider Submission: Identifying Waste

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

Associated Tasks	Has Value	Waste
Provider Completes Form		
Provider Signs Form		
Provider Submits Form		
Provider Faxes Form		
OR Provider Mails Form		

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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		• All areas of the form must be completed
			    • VFC Profile
			    • Benchmarking
			    • Shipping Information
			    • Prescribing Physicians (Medical Director)
			    • Primary & Back Up Coordinators

Sign	Provider Signs Completed Form		• Signature is Mandatory
Submit	Provider Submits Form And Coordinators Training Certificates	Faxes Form Mails Form	• Provider Must Submit Form & Certificates • Faxes are random and inefficient • Mail is inefficient
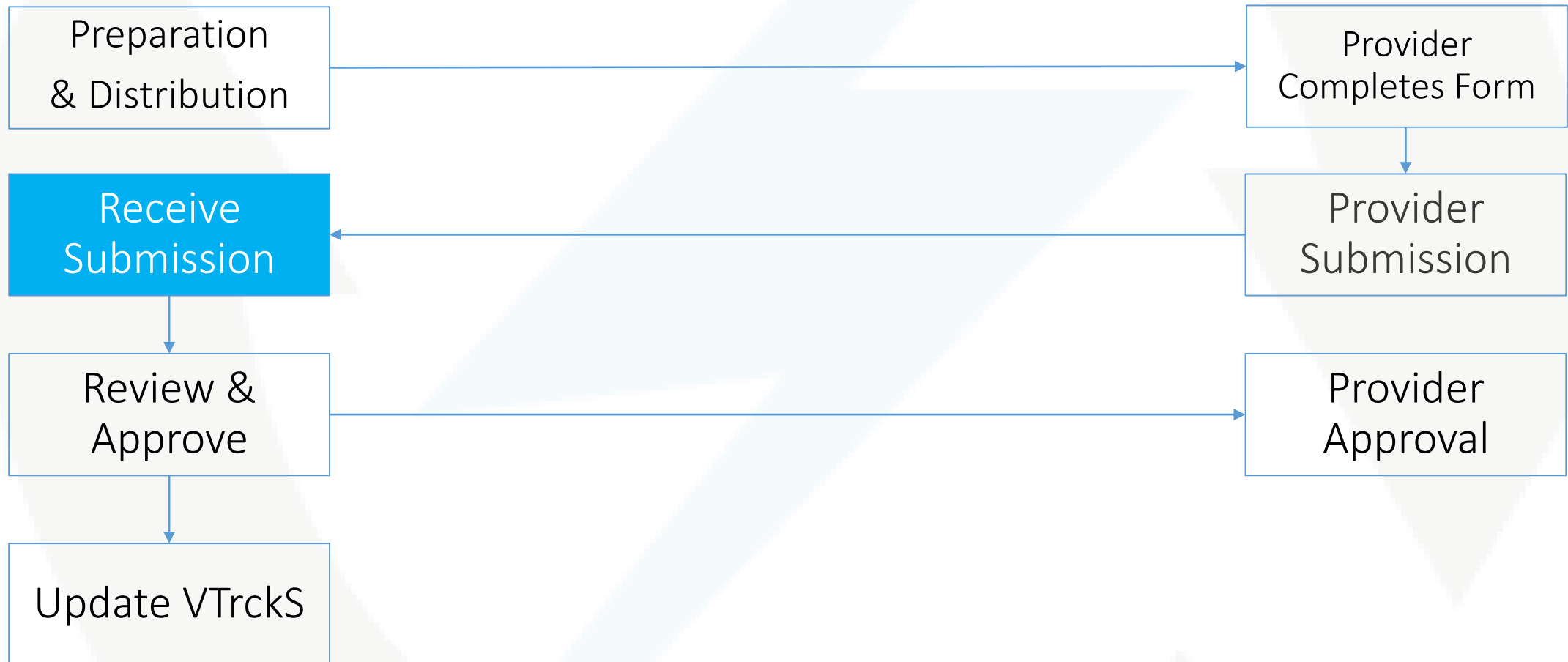
Receive Submission: Identifying Waste

Value in This Phase – Immunization Program Receives VFC Enrollment From

Associated Tasks	Has Value	Waste
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		

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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	• VFC Program must receive documents • Faxes are random and inefficient • Mail is inefficient
Triage		Staff Records Receipt in Excel Staff Scans all documents Staff Saves Copy on Shared Drive Staff Files Paper copy in cabinet	• Non-relational, used when not better method exists • Fax/Mail replaced with digital upload. • Wasted time and money. • However, still need have documents centrally stored for ubiquitous access. Need a better Triage method.
Route		Staff Notifies Region VFC Nurse	• After mailing, no visibility into provider actions. Want VISIBILITY.

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

County	VFC PIN	Provider Site	Contact Name	Status	Submitted Forms	Enrollment Type
LABETTE	6264	Dixit Pediatric Clinic	Nurse Smith	⚠ Pending Approval	✔	Re-Enrollment
ELLIS	0026	Ellis Co Health Dept	Manager Smith	✔ Completed	✔	Re-Enrollment
SEDGWICK	6362	Redwood Family Practice	Dr. Joe	⚠ Pending Approval	✔	Re-Enrollment
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THOMAS	2065	Citizens Medical Center	Nurse Test	🚫 Step **3 of 4** Completed Forms Not Submitted	🚫	New Enrollment
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RILEY	6064	Pediatric Associates of Manhattan, P.A.	Jon Doe	🚫 Step **3 of 4** Completed Forms Not Submitted	🚫	Re-Enrollment
WYANDOTTE	1013	Turner House Children's Clinic	Nurse Doe	⚠ Pending Approval	✔	Re-Enrollment

Establishes Pull with instant access to Pending Approvals

Kansas' High-Level VFC Re-Enrollment Process
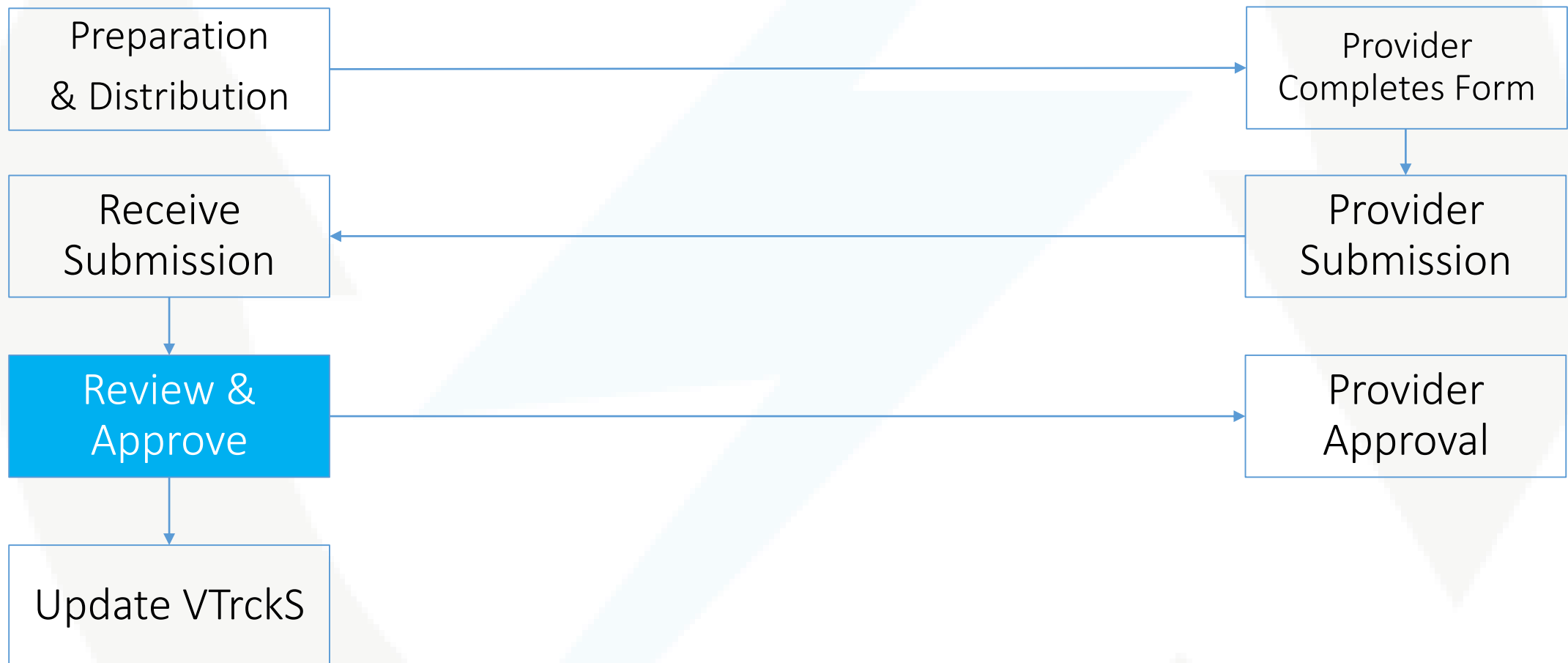
Review & Approve: Identifying Waste

Value in This Phase – Enrollment Completion, Compliance and Approval

Associated Tasks	Has Value	Waste
• 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		

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	• Review the Enrollment Form • If Missing Information, Contact Provider • If CDC Training Certificates Missing, Contact Provider		
Validate	• Validate Prescribing Provider Credentials • Check Prescribing Providers against OIG Fraud Database		All mandatory
Route	• Forward to VFC Manager • VFC Manager Approves/Disapproves		
Inform	• Inform Provider of Approval/Disapproval		

Lean Engineering: Creating Flow

Integrated Approval Process

Program*	VFC
Prescribing Provider Validation	1 of 1 validated ✓
Sent for Final Approval	○
Final Approval	○
More Info Needed	○

☐ Signature Missing ☐ Profile Clarification ☐ Training Certs Missing

Disapprove (requires explanation) [▾]

Comments ☐ Include comments in email to clinic   ☐ Copy Me

[   ]

* Required

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

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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
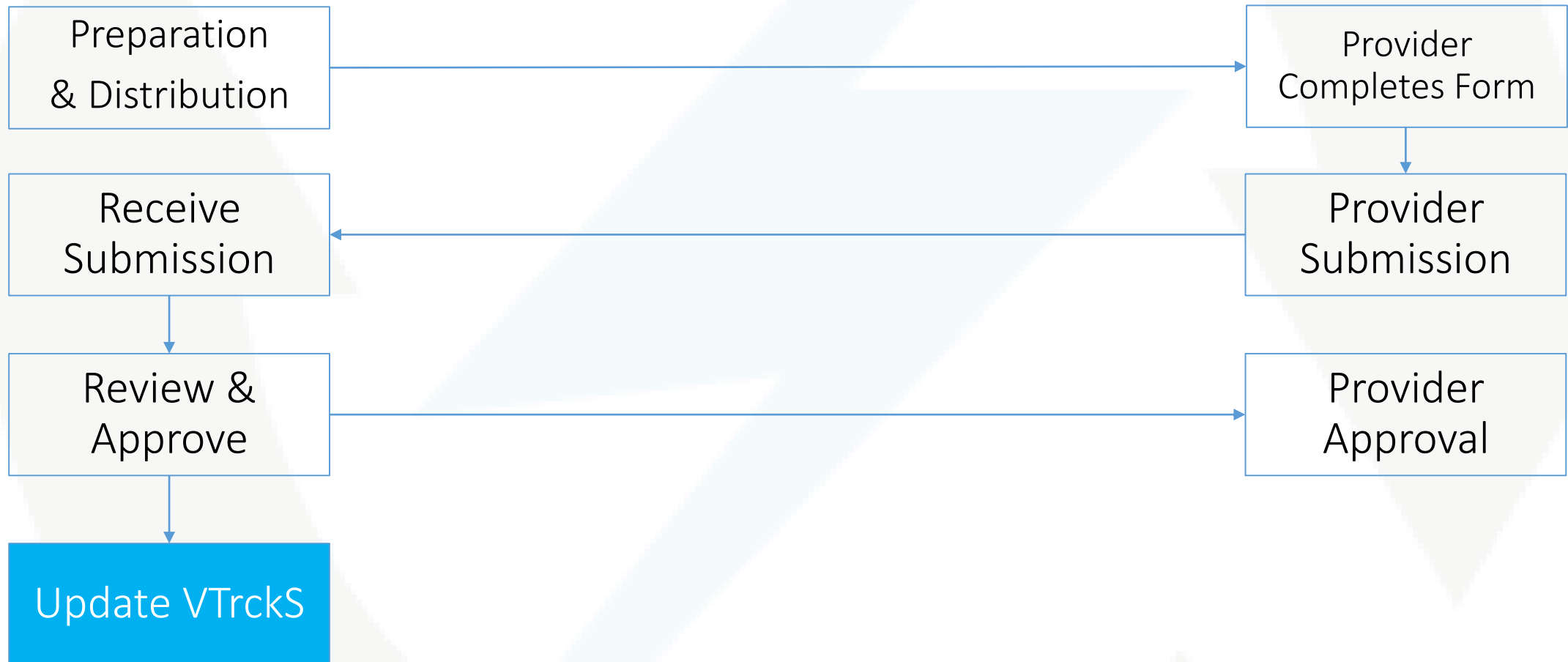- Single Click to view completed VFC form

VFC – Pending Final Approvals

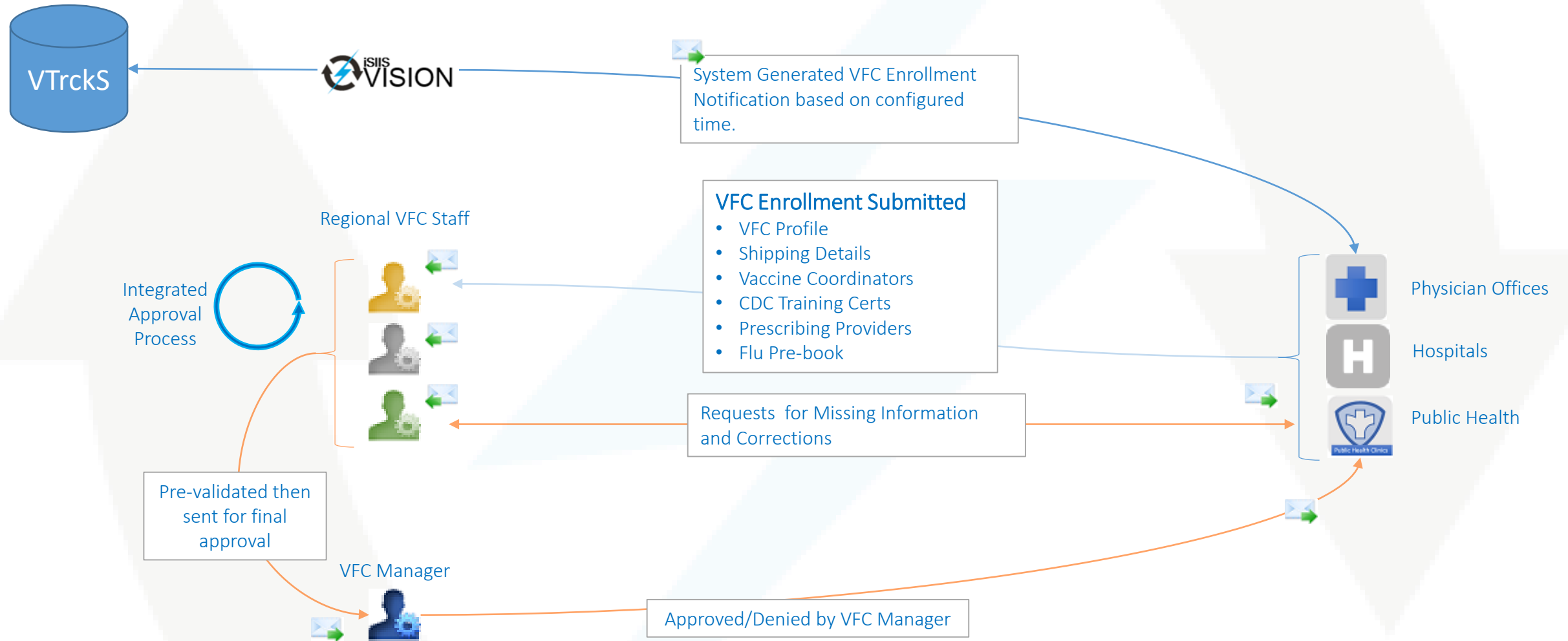| #	Enrollment Type	VFC Submitted For	Person Completing Enrollment			VFC Submission Date	Status	View/Approve	Remove
1.	Practice	Augie Doggie Clinic	Molten Lava	(112) 123 1233	debjwarren52@gmail.com	03 11 2017	⚠ Sent for Final Approval	View/Approve	✖
2.	Practice	Ollie Local Health Department	Deb Warren	(785) 393 9451	debjwarren52@gmail.com	03 04 2017	⚠ Sent for Final Approval	View/Approve	✖

Establishes Pull with instant access to Final Approvals

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Lean Engineering: Value Stream

Kansas' High-Level VFC Re-Enrollment Process

KIP Annual VFC Enrollment – Updated Workflow

VTrckS

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System Generated VFC Enrollment Notification based on configured time.

Regional VFC Staff

Integrated Approval Process

VFC Enrollment Submitted
- VFC Profile
- Shipping Details
- Vaccine Coordinators
- CDC Training Certs
- Prescribing Providers
- Flu Pre-book

Requests for Missing Information and Corrections

Pre-validated then sent for final approval

VFC Manager

Approved/Denied by VFC Manager

Physician Offices

Hospitals

Public Health

Year 2 Additional Improvements

Electronic Signature

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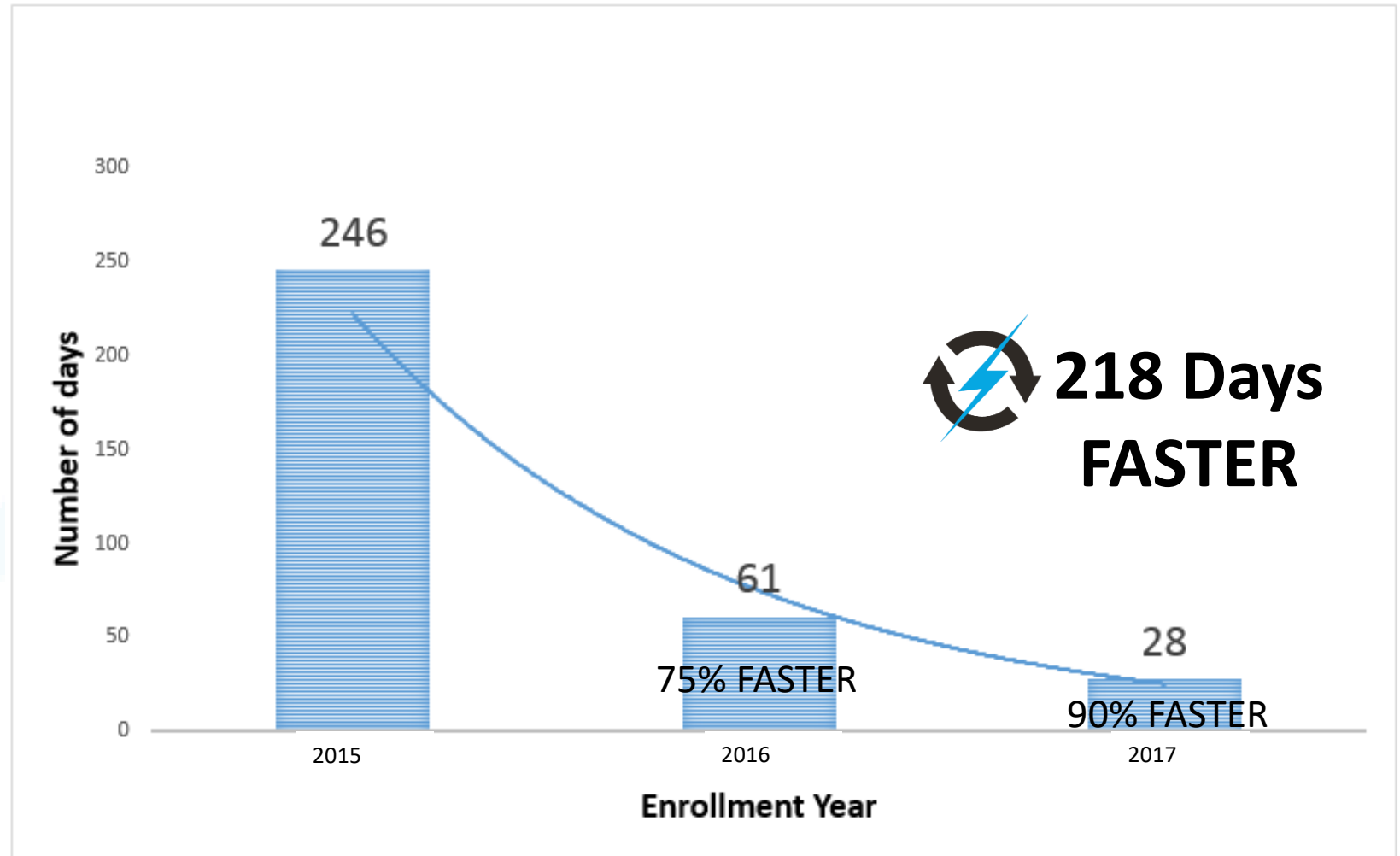
Improved ✓

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?

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Self-Serve VFC Enrollment Results

2017 Year 2 Results

- Start to Finish: 2 days less than paper packet prep in 2015

- VFC program gains 218 days (over 7 months) to focus on
  - Provider Education
  - Site Visits
  - Compliance Issues
  - Follow Up

218 Days FASTER

246

61 — 75% FASTER

28 — 90% FASTER

Number of days

Enrollment Year

2015   2016   2017

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

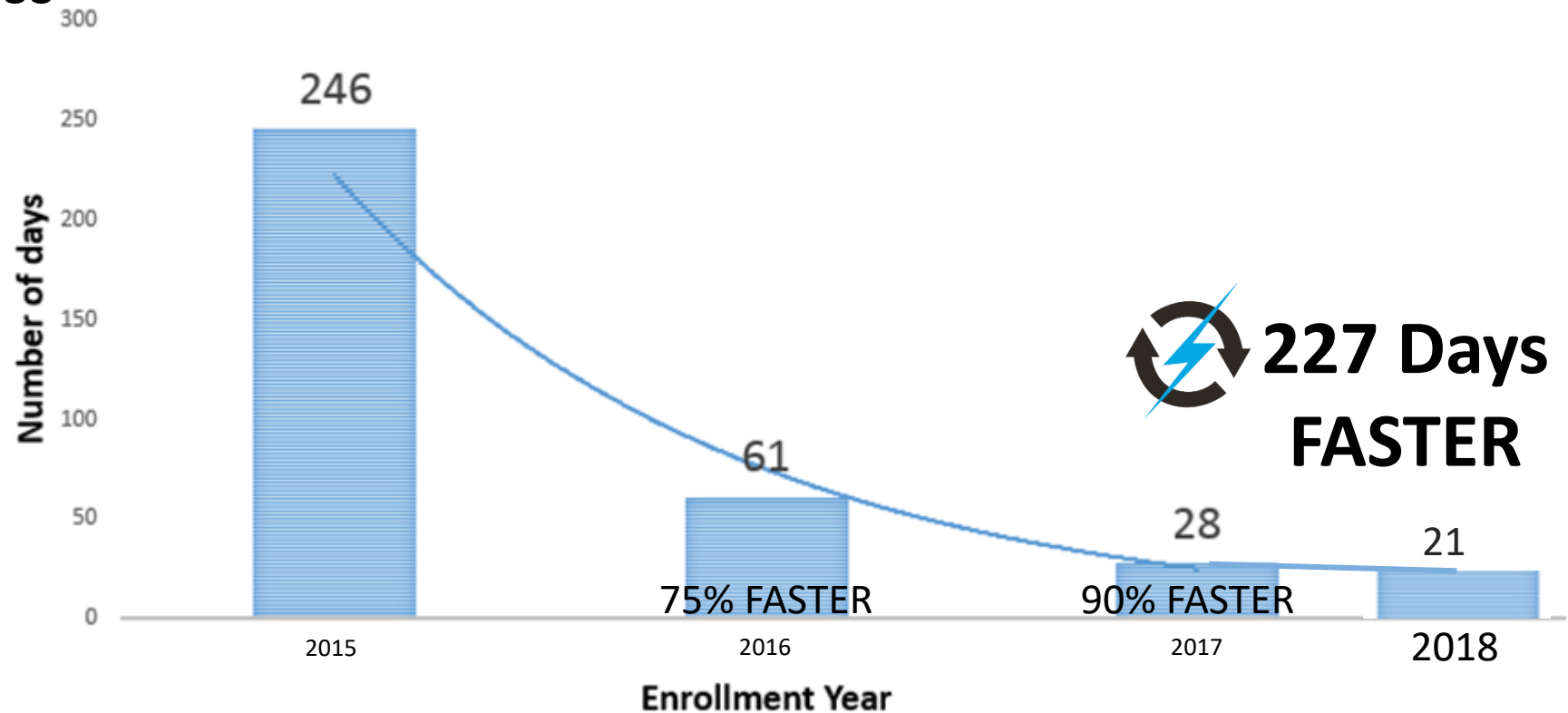Many corrections were needed for Flu Pre-book submissions in 2016

Solution

Introduced a new approval workflow for Flu Pre-book submissions

Self-Serve VFC Enrollment Results

2018 Year 3 Results

- Start to Finish: 9 days less than paper packet prep in 2015

- VFC program gains 227 days to focus on:
  - Provider Education
  - Site Visits
  - Compliance Issues
  - Follow Up

227 Days FASTER

Chart — Number of days vs Enrollment Year:
- 2015: 246
- 2016: 61 (75% FASTER)
- 2017: 28 (90% FASTER)
- 2018: 21

Contact

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AMCI Health Informatics