

# THE AFIX-IIS INTEGRATION PROJECT

The Good, Bad and Lessons Learned

CDC, SMaRT AFIX, Envision, DXC Technology, MCIR and Florida SHOTS

# OVERVIEW

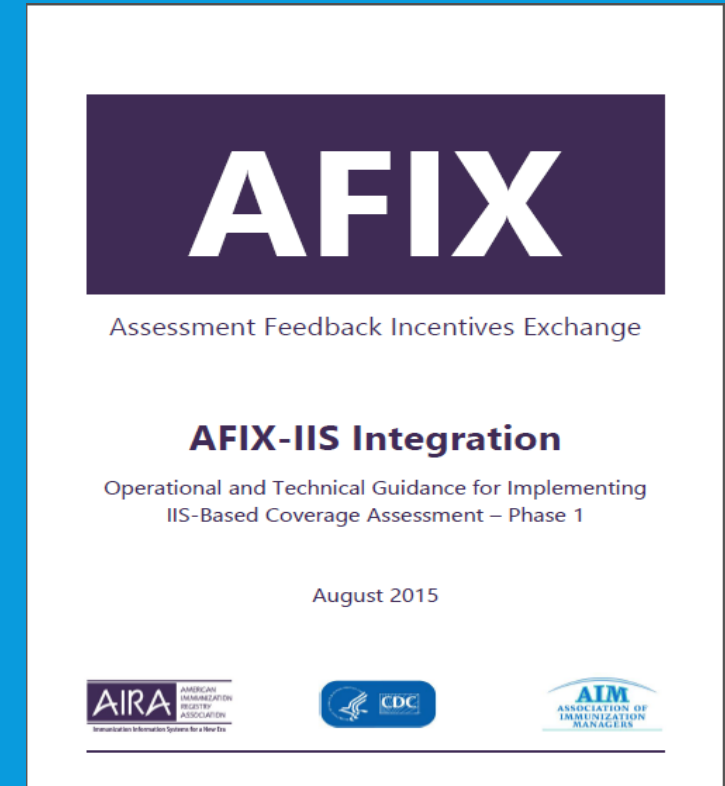
- Background
  - STC, Envision, DXC Technology, MCIR and Florida SHOTS presentations and CDC AFIX-IIS Integration Team lessons learned
  - Panel discussion (Q/A)
  - CDC Announcements
- *Note: laptops and a SME will be available to answer platform/tool specific questions*

# BACKGROUND

- Joint effort between two CDC branches
- Guidance documents developed
  - Two (2) project development phases
    - Phase 1 – Required (Assessment)
    - Phase 2 – Recommended (Assessment/Feedback)
- STC competed successfully for a CDC contract to develop SMaRT AFIX
- 25 immunization awardees received PPHF funding in 2015 to the transition

# AFIX SOLUTIONS

- Awardees that integrate AFIX into the IIS must follow the requirements in the AFIX/IIS Integration Phase 1 guide
- General Phase 1 Requirements
  - AFIX awardees will be required to leverage their Immunization Information Systems (IIS) to perform provider level assessment activities
  - IIS must be able to perform the minimum/mandatory reporting requirements to support the AFIX workflow
  - The IIS must apply all business rules for identifying the assessment cohort (denominator), applying the assessment criteria (numerator), and performing the calculation logic



# AFIX-IIS INTEGRATION PROJECT TEAM

## THE GOOD, BAD AND LESSONS LEARNED

- GOOD

- End users being included in the development of solutions

- BAD

- Restrictions due to awardee, vendor and CDC relationships

- LESSONS LEARNED

- Panel of SMEs from field and CDC
  - Discuss all resource needs prior to soliciting a vendor or providing PPHF funding



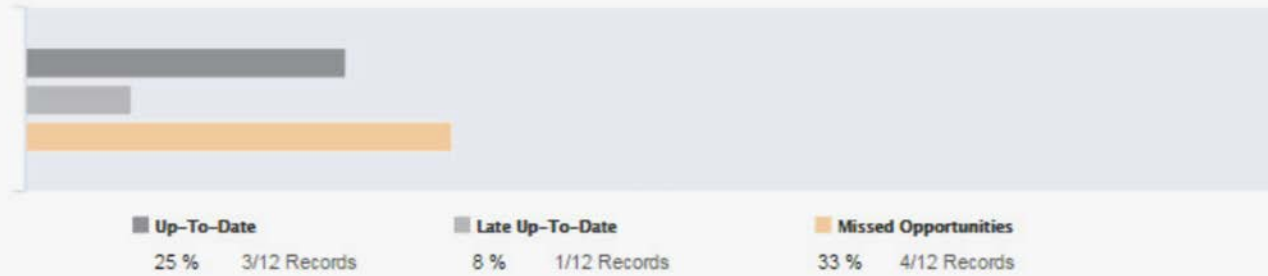
# SCIENTIFIC TECHNOLOGIES CORP (STC)

## SMART AFIX

SMaRT AFIX  
Powered by STC

### PEDIATRICS UNLIMITED ON GROVE

Childhood Assessment | 4:3:1:3:3:1:4

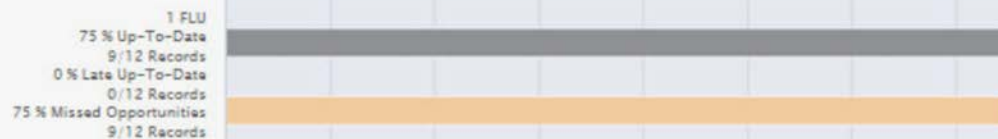


Top Performer for Childhood

40 of 1062 providers for Childhood Assessment

### PEDIATRICS UNLIMITED ON GROVE

■ Up-To-Date  
■ Late Up-To-Date  
■ Missed Opportunities



Search: PEDIATRICS UNLIMIT... PEDIATRICS UNLIMIT...

Create Custom Patient List Report

Filtering by: Provider Relationship: Active patients owned by the facility As of Date: 01/30/2017 Ages Assessed: 24 to 35 months VFC Eligibility Status: ALL Gender: ALL Race: ALL Ethnicity: ALL

Provider

Enter Facility/Organization name or VFC PIN

Organization/Facility Search

Provider Relationship

☐ All active patients

☒ Active patients owned by the facility

As Of Date

Select the number of days in the past to use for the 'As of Date' for the report

0

# SCIENTIFIC TECHNOLOGY CORPORATION

## ENHANCEMENTS

- All Phase 1 Guideline Requirements and a few “nice to have” features
  - Agnostic tool with a nightly import from any IIS
  - NIS state and national data on the landing page
  - Custom patient lists with user-defined parameters, which can be saved as reusable templates
  - Exportable provider lists to help state AFIX coordinators prioritize AFIX visits based on criteria such as coverage rates, practice size and location
  - Single sign on options for any IIS if they would like to improve the user experience
  - Updated CDSi logic to support 2 dose HPV recommendation

# SCIENTIFIC TECHNOLOGIES CORPORATION

## LESSONS LEARNED

- To address awardee concerns about data security and cloud hosting, it became a requirement to have the application reside in the same environment as their IIS
- Requirements lead to more of a “big data” application which *analyzes* and displays data in a meaningful way for users
- Estimated costs for hardware and hosting are challenging for a brand new application where production level data and processing are not well known yet
- Early and frequent communication to all key stakeholders and within state programs



# ENVISION TECHNOLOGY PARTNERS

**LESH, PHIL** ID: 499890 DOB: 02/03/2015 AGE: 1Y 8M 16D GENDER: U

## Patient Programs

**Clinic** **History** **Jurisdiction** **Other Programs**

Inactivate Patients

	Update #	Effective Date	Clinic	Clinic Status	Jurisdiction Status	Audit
-	3	10/19/2016	HOSPITAL CLINIC	INACTIVE	ACTIVE	?
			Clinic Reason: NO LONGER A PATIENT - MOVED TO NEW CLINIC			
			Jurisdiction Reason: PHONE			
			Notification Method: 10/19/2016			
			Comment: Patient called to inform us that he is moving to a new clinic.			
+	2	10/19/2016	HOSPITAL CLINIC	ACTIVE	ACTIVE	?
+	1	10/19/2016	HOLSINGER CLINIC TYPE 3	INACTIVE	ACTIVE	?

## Childhood Immunization Summary

Provider: BRAD TYPE 3  
Clinic Name: BRAD AFIX

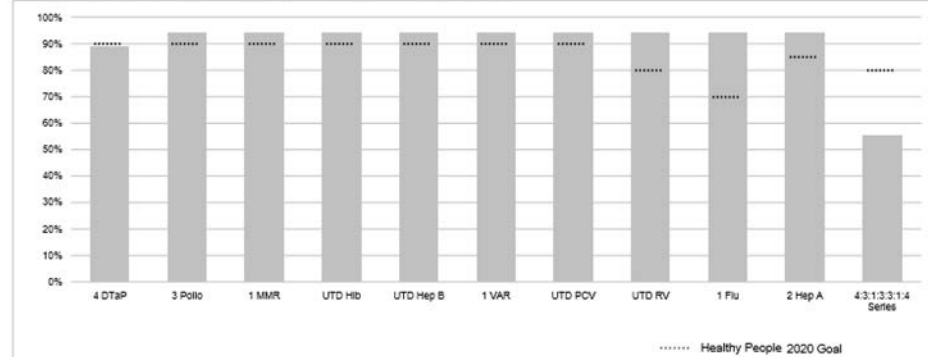
VFC Pin #: BC0001



As Of Date: 01/19/2017  
Assessment Date: 01/19/2017  
Feedback Date: 01/26/2017

Ages Assessed: 24-35 MONTHS  
Birthdate Range: 01/20/2014 - 01/19/2015  
Compliance by Date: 24 MONTHS

### Assessment of Immunization Rates | 18 Patient Records Assessed



The following vaccines and doses are recommended for this patient population.

	Doses Up To Date #	%	Healthy People	
4 DTaP	16	89%	90%	4 valid doses of DTaP
3 Polio	17	94%	90%	3 valid doses of Polio
1 MMR	17	94%	90%	1 valid dose of MMR
UTD Hib	17	94%	90%	Patient Series Status Complete for Hib

# ENVISION TECHNOLOGY PARTNERS

## ENHANCEMENTS

- Phased implementation of Patient Active / Inactive Status (PAIS) changes, mandatory and optional AFIX reporting, datamart components
- Fully CDSi-compliant forecaster was completed separately and provided to customers for review beginning July 2016
- Enhancements delivered over three regularly scheduled releases between September 2016 and June 2017

# ENVISION TECHNOLOGY PARTNERS

## LESSONS LEARNED

- Changing the fundamental architecture of patients' status and default clinic was a complex project as this data is used for numerous purposes throughout an IIS
- The AFIX assessment output that is left with the clinic must be flexible and contain graphics to efficiently highlight areas that need improvement
- It pays for awardees to request funding via multiple channels.
- Awardees that have questions about guidance should consult the AFIX-IIS Integration Project Team. AFIX IIS represents new functionality and there may be a lot of questions

# DXC TECHNOLOGY

## THE AFIX PRODUCT

Success! The Following job is successfully added to the Scheduler for Job ID= 836

**Provider:** Winchester Clinic - South Select Provider

**Type:** Childhood ▼

Childhood Cohort Assessment Criteria

Age Range : 24-35 Months

Polio 3	DTap 4	RV UTD
MMR 1	Flu 1	Hib UTD
HepA 2	PCV UTD	Hep B UTD
4:3:1:3:3:1:4 UTD		

**As of Date:** 02/21/2017

**Birth Date Range**

**From:** 02/22/2014 **To:** 02/21/2015

**Reports:**

☒ Assessment

☐ Patient Listing

☐ Both

Clear Submit

**Provider:** Winchester Clinic - South Select Provider

**As of Date:** 02/21/2017

**Age Range**

**From:** 2 **To:** 10 **Months** ▼

**Vaccine Group Selection** **Dose Count**

HIB +

Vaccine Group	Dose Count	
HepB	1	<span>✎</span> <span>✕</span>

**Birth Date Range**

**From:**  **To:**

**Reports:**

☐ Assessment

☐ Patient Listing

☐ Both

Clear Submit

# DXC TECHNOLOGY

## ENHANCEMENTS

- Alignment with the Phase 1 Guidelines plus influences from Phase 2.
- Leveraging base IIS forecaster to ensure consistency
- Initial work on design currently underway with 6 states. (Idaho, Iowa, Nebraska, New York, Oregon and Virginia)
- Following Agile/Scrum Software Methodologies
- Sprints well underway with initial work products vetted with partners.
- 30 distinct user stories defined for product backlog
- Product model that will be available for all IIS
- Emphasis on developing a sustainable architecture and technology regardless of platform

# DXC TECHNOLOGY

## LESSONS LEARNED

- Important to recognize the world we live in, develop something simple that will work within the typical IIS environment
- Setting realistic expectations
- Merging grant requirements and complexities associated with that
- Be mindful of security policies as they are only getting tighter
  - While technology may support a more streamlined model, policies may not
- Agile moves faster than traditional development, requiring consistent patterns for dialogue and consensus
- Many from the AFIX side have not experienced software development before. It is important to have their voices heard
- Defining responsibilities between base IIS and The AFIX Product
  - Keeping lines clear and clean

# MICHIGAN CARE IMPROVEMENT REGISTRY (MCIR)

Report Parameters	
Report	
People of age at least (months)	
but not yet of age (months)	
Doses of DTP/DT/Td	
Doses of IPV	
Doses of MMR	
Doses of Hib	

Basic Overview

Invalid Doses

Single Antigen

Diagnostic

Missing Immunizations - Overdue

Immunizations Coming Due

Summary

All

Select Provider	
County	Ingham (33) County <span>Get Providers</span>
Site	

Report Parameters	
Report	
People of age at least (months)	24
but not yet of age (months)	36
Doses of DTP/DT/Td	4
Doses of IPV	3
Doses of MMR	1
Doses of Hib	3
Doses of HepB	3
Doses of Varicella	1
Doses of PCV	4
Doses of Rotavirus	0
Doses of HPV	0
Doses of HepA	2
Doses of Influenza	0
Doses of MCV	0
Gender	All
Select People By	Provider Id
Patient Status	Standard
Missed Opportunities defined	On LAST immunization visit
List People Not Meeting Criteria	No
Display People As	<input checked="" type="radio"/> List <input type="radio"/> 1 Page - Official State of Mich Imms Record
Description	AFIX_1470758108136

Submit

Cancel

# MICHIGAN CARE IMPROVEMENT REGISTRY (MCIR) ENHANCEMENTS

- AFIX reports (similar to those available in CoCASA) are now available to all MCIR users at pediatric and adolescent physician offices in Michigan
- Training webinars were presented to physician office staff (MCIR Users) detailing the use and efficiencies of AFIX reports.




# MICHIGAN CARE IMPROVEMENT REGISTRY (MCIR)

## LESSONS LEARNED

- Use of the term Quality Improvement vs. AFIX - physician offices are not familiar with “AFIX”; but they are familiar with “quality improvement” activity
- IIS programmers have multiple priorities. Funding was made available, but it takes time to design, test and implement the requested changes and enhancements to existing AFIX reports
- The buy-in of all staff is key to success

# FLORIDA SHOTS



Keeping Shots in Check

User: BASKAR  
KRISHNAMOORTHY

[Task List](#)  
[Patients](#)  
[Record Maintenance](#)  
[Reminder Recall](#)  
[System Transactions](#)  
[Vaccine Inventory](#)  
[Assess Imm Levels](#)  
[Create Assessment File](#)  
[Survey Report](#)  
[Summary Report](#)  
[AFIX Assessment Report](#)  
[Patient List Report](#)  
[Create CASA Extract File](#)  
[Survey](#)  
[Survey Maintenance](#)  
[Reports](#)  
[Administration](#)  
[Organization](#)  
[VFC](#)  
[Configuration](#)  
[Customer Support](#)  
[Sys Admin](#)  
[Sign out](#)



## CREATE ASSESSMENT FILE CRITERIA

Create an Assess Immunization Levels file for the following criteria.

For Organizations: \* ☐ All Organizations  
☒ All CHDs  
☐ All VFC Providers  
☐ One organization:

For Age Group: \* ☒ Children age 0 to 47 months of age  
☐ Adolescent age 11 to 18 years of age

As of Date (Compute Age On): \*

Compliance By (Evaluate At): \* ☒ Age: \*  Months of age  
☐ Date:

Allow Provider Access: ☐

\* Asterisk indicates a required field

# FLORIDA SHOTS



Submit

User: BASKAR  
KRISHNAMOORTHY

## Task List

Patients

Record Maintenance

Reminder Recall

System Transactions

Vaccine Inventory

Assess Imm Levels

Create Assessment File  
Survey Report  
Summary Report  
AFIX Assessment Report  
Patient List Report  
Create CASA Extract File  
Survey  
Survey Maintenance

Reports

Administration

Organization

VFC

Configuration

Customer Support

Sys Admin

Sign out

## SUMMARY REPORT CRITERIA

Assessment file created on 07/26/2016 for patients 0-47 months old as of 07/26/2016  
Compliance with metrics computed at 12 months and 24 months.  
Assessment file includes all service sites for [REDACTED]

Assessment Type: \* ☒ AFIX Standard  
☐ Custom

Base Complete on: \*  
2-3 RV  
1 Flu  
2 HepA  
4:3:1:3:3:1:4

Report Format: \* ☒ Browser  
☐ Excel File - downloaded

\* Asterisk indicates a required field

Generate Report

## SUMMARY REPORT CRITERIA

Assessment file created on 07/26/2016 for patients 0-47 months old as of 07/26/2016  
Compliance with metrics computed at 12 months and 24 months.  
Assessment file includes all service sites for [REDACTED]

Assessment Type: \* ☐ AFIX Standard  
☒ Custom

### Custom Assessment Criteria

Age range from: \* 24 to \* 35 months old as of: 07/26/2016

Compliance Age: \* ☐ 12 months  
☒ 24 months

Exclude: ☐ Patients without a WIC Id  
☐ Patients with a religious exemption  
☐ Patients with a MOGE date on or before the compliance age/date

Include Status Values: \* ☒ ACTIVE

☒ INACTIVE-DOCUMENTED MOVE  
☒ INACTIVE-UNABLE TO LOCATE/NO RESPONSE  
☒ INACTIVE AT CONVERSION  
☐ INACTIVE-WIC/PRIVATE PROVIDER RECALL  
☐ INACTIVE-WIC/PRIVATE PROVIDER NO RECALL

Base Complete on: \*  
4:3:1:3  
4:3:1:3:3  
4:3:1:3:3:1  
4:3:1:3:3:1:4

Report Format: \* ☒ Browser  
☐ Excel File - downloaded

\* Asterisk indicates a required field

Generate Report

# FLORIDA SHOTS

## PATIENT LIST REPORT CRITERIA

[Show Help Text](#)

Assessment file created on 07/26/2016 for patients 0-47 months old as of 07/26/2016  
Compliance with metrics computed at 12 months and 24 months.  
Assessment file includes all service sites for  

Assessment Type: \* ☐ AFIX Standard  
☒ Custom Assessment

### Custom Assessment Criteria

Age range from: \*  to \*  months old as of: 07/26/2016

Exclude: ☐ Patients without a WIC Id  
☐ Patients with a religious exemption  
☐ Patients with a MOGE date on or before the compliance age/date

Include Status Values: \* ☒ ACTIVE  
☒ INACTIVE-DOCUMENTED MOVE  
☒ INACTIVE-UNABLE TO LOCATE/NO RESPONSE  
☒ INACTIVE AT CONVERSION  
☐ INACTIVE-WIC/PRIVATE PROVIDER RECALL  
☐ INACTIVE-WIC/PRIVATE PROVIDER NO RECALL

Include Patient Data: ☐ City ☐ Medicaid ☒ MOGE Date ☒ Perm Contra  
☐ Race ☒ Religious Exemption ☒ State Imm Id ☒ Status  
☒ VFC ☐ WIC Id ☐ Zip Code

Include Patient Groups: \* ☒ All patients (assessment cohort)  
☐ Patients with no immunizations  
☐ Patients with invalid doses (adds 'Invalid Doses' column)  
☐ Patients with missed opportunities (adds 'Last Visit' and 'Missed Opportunities' columns)  
☐ Patients that are complete (adds metric column)  
☐ Patients that are incomplete (adds metric and 'Missing Series' columns)  
☐ Patients that are late Up-To-Date (adds metric and 'Late Series' columns)

Report Format: \* ☒ Browser  
☐ Excel File - downloaded

\* Asterisk indicates a required field

Generate Report

# FLORIDA SHOTS ENHANCEMENTS

- Updated the assessment functionality based on AFIX requirements in Jan 2016
  - Age cohort can be customized
  - Assessment can be run for an entire organization or for individual provider sites within that organization
- Design features
  - Creates an assessment file – a snapshot in time, with all relevant coverage metrics calculated
  - Customized Reports are generated from the snapshot file
  - Can compare assessments at different points in time to identify trends

# FLORIDA SHOTS

## LESSONS LEARNED

- Consistent Language/Definition for Metrics
- Not all providers use/need AFIX metrics
- Other providers need customized assessment capability to track their practice
- Assessment functionality is used by
  - AFIX team to assess VFC providers
  - non-VFC providers as self-assessment tool
- Design the functionality to include customization capabilities

# CDC PROJECT ANNOUNCEMENTS



# PANELIST

- CDC AFIX-IIS Integration Team
- Steve Murchie (Envision)
- Kristi Siahaya (STC)
- Katie Reed (DXC)
- Baskar Krishnamoorthy (Florida SHOTS)





# QUESTIONS

CDC's AFIX IIS Integration Project Team

Hanan Awwad and Bobbie Strickland

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