



# BYIM Immunization Data Exchange – BYIM Package & EHR Immunization Component



Presented By...

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# BYIM Interface Management

- BYIM v3.0
  - Two-way Generic Interface System (GIS) HL7
  - Exchange of immunization data with State immunization registries
- EHR v1.1 p29 Immunization Component



## Learning Objectives

At the end of this session, participants should be able to ...

- Describe the menu options to send HL7 messages and evaluate responses
- Compare and contrast RPMS only, State only, and RPMS + State displays
- Describe differences in Immunization context displays available
- List possible error messages and how to approach resolution



## BYIM Menu

### Immunization Data Exchange 2021 DEMO HOSPITAL (INST)

BYIM VERSION: 3.0 P 2	NEXT AUTO EXPORT: JUL 21@14:03
HL7 VERSION: 2.5.1 R1.5 2016+	NEXT AUTO IMPORT: JUL 21@09:24:15
OUTPUT CONTROLLER: RUNNING	NEXT AUTO QUERY.: JUL 21@09:27
FORMAT CONTROLLER: RUNNING	NEXT AUTO PURGE.: JUL 22@01:00

IZDE	Start Immunization Data Export
IZCE	Check Immunization Data Export Status
IZFS	File Statistics Report
IZSI	Show Immunizations Exported for a Patient
IZTE	Create TEST Export File
IZQR	Immunization Queries
SET	SETUP Options ...



# IZDE Start Immunization Data Export

The last Immunization export ran on: JUL 19,2021

This export will include: Patients of all ages  
who have had a visit since the last export.

You can select another date range for the export.

Export Immunizations given since JUL 19,2021: JUL 19,2021//

Exclude Immunizations given after JUL 20,2021: JUL 20,2021//

which immunizations should be included:

select one of the following:

- 1 NEW or EDITED Immunizations in the date range
- 2 ALL Immunizations for patients with VISIT in the date range

Send NEW or ALL Immunizations: NEW or EDITED Immunizations// in the date range

Include HISTORIC Immunizations added to RPMS in the date range? NO//

Evaluation of immunizations for export to the State Immunization  
registry may take several minutes.

Do you want to proceed? NO//





## IZDE Start Immunization Data Export—Results

Immunizations for 8060 Patients 0-99  
were evaluated.

The file 'izdata\_232101\_20210720\_133353.dat' will be created in the  
'G:\Immunization Tracking\BYIM\export\' directory.

File creation may take several minutes.  
Check for the file in the directory listed above.

If SMM is running, the file should transfer automatically  
to the State registry.



# IZFS File Statistics Report

File Status Report

Report Date: 07/23/2021

File	IMP/EXP Date	Type	Pat- ients	Imuni- zations	NO Pat Match	New Imms	Imms Added
File Name Prefix: izdata_232101_							
20210716_101.dat	07/16/2021	EXPORT	10				
File Name Prefix: NoImmsToExp_232101_							
20210716_114337.dat	07/16/2021	EXPORT	0	0			
20210716_12091.dat	07/16/2021	EXPORT	0	0			
File Name Prefix: izdata_232101_							
20210716_123501.dat	07/16/2021	EXPORT	10				





# IZSI Show Immunizations Exported for a Patient

select the patient to review:

Enter Name, HRN or DOB:

Immunization Export summary for:

TEST, NEWBABY

DOB: 09/03/2014 HRN: 86009

Export Date	Immunization	Admin Date
-----	-----	-----
08/01/2016	ROTAVIRUS, PENTAVALE	08/01/2016
08/01/2016	DTaP-Hep B-IPV	08/01/2016
12/20/2015	ROTAVIRUS, MONOVALEN	12/20/2015
06/08/2021	DTAP	08/01/2017

Press <ENTER> to continue or '^' to exit...: ■



# BYIM Menu Immunization Query

Immunization Query Options - Version: 2.5.1 R1.5 2016+

select one of the following:

- 1 Request Patient Imm History and Forecast
- 2 Send Patient Immunizations
- 3 Review Query or VXU Response
- 4 Review Query or VXU Sent
- 5 Send Scheduled Appt Queries

which action:



# Request Patient Imm History & Forecast

```
which action: 1 Request Patient Imm History and Forecast
select patient(s) to send to the State Immunization Registry
select patient:
  DEMO,PATIENT CHILD          <W>   F 11-17-2016 XXX-XX-9895  PIMC 999895

  1          DEMO,PATIENT CHILD
Select another patient:
A 'Request for Evaluated Imm History and Forecast' will be sent for:
  1          DEMO,PATIENT CHILD
Do you want to proceed? YES//
Please stand by. This may take a couple of seconds...
Query being sent for: DEMO,PATIENT CHILD
Query for : DEMO,PATIENT CHILD
  being sent to: ARIZONA
  and to: UNKNOWN
QUERY Message ID: IHS-43527232 for DEMO,PATIENT CHILD
and can be used to look up the responses from:
  ARIZONA
  UNKNOWN
```



# Send Patient Immunizations

which action: 2 Send Patient Immunizations

which immunizations should be included:

select one of the following:

- 1 NEW or EDITED Immunizations in the date range
- 2 ALL Immunizations for patients with VISIT in the date range

Send NEW or ALL Immunizations: NEW or EDITED Immunizations// in the date range

Include HISTORIC Immunizations added to RPMS in the date range? NO//

Select patient(s) to send to the State Immunization Registry

Select patient:

TEST,NEWBABY

F 09-03-2014

TST 86009

1 TEST,NEWBABY

Select another patient:

An 'Unsolicited Vaccine Record Update (VXU)' will be sent for:

1 TEST,NEWBABY

Do you want to proceed? YES//

Please stand by. This may take a couple of seconds...

Immunization record for: TEST,NEWBABY

being sent to: ARIZONA

and to:

and to:

and to:





# Review Query or VXU Response Information Only

3 Review Query or VXU Response

Review Responses from the State IIS  
Select by Pat Name, Query/VXU Date or Message ID: demo,patient c  
HILD  
izrt\_qbp\_298997\_3\_20210612\_000027.dat <W> F 11-17-2016 XXX-XX-9895 PIMC 999895  
0:00:27 IHS-43527232 ARIZONA DEMO,PATIENT CHILD Jun 12,2021@0  
Select one of the following:

- 1 Immunization Information Only
- 2 HL7 Message Content

Which display option: Immunization Information Only//

Response received				Date/State	File Name/Message ID						
-----				-----	-----						
DEMO,PATIENT CHILD (F)				06/12/2021	izrt_qbp_298997_3_20210612_000027.d						
DOB: 11/17/2016 HRN: 999895				ARIZONA	IHS-43527232						
Response ID: (11744123)				Query or VXU ID: (11743909)							
-----				-----							
DEMO,PATIENT CHILD				11/17/2016 F HRN: 1							
-----				-----							
CVX	VACCINE	ADM DATE	AGE	LOCATION	REACTION	VOL	SITE	LOT	MAN	VALID	STATUS
-----											
S	20 DTaP	20201121	4 dys	PHOENIX		.5		KG4M7	G1a		COMPLE
158	FLU-IIIV	20170926	10 mts	PHOENIX		.5	LT	4MM5P	G1a		COMPLE
158	FLU-IIIV	20171024	11 mts	PHOENIX		.5	LT	4MM5P	G1a		COMPLE





# Review Query or VXU Response HL7 Message Content

## 3 Review Query or VXU Response

Review Responses from the State IIS

Select by Pat Name, Query/VXU Date or Message ID:    izrt\_qbp\_298997\_3\_20210612\_000027.dat    DEMO,PATIENT CHILD    Jun 12,2021@00:00:27    IHS-43527232  
ARIZONA

Select one of the following:

- 1            Immunization Information Only
- 2            HL7 Message Content

Which display option: Immunization Information Only// 2   HL7 Message Content

Response received	Date/State	File Name/Message ID
DEMO,PATIENT CHILD (F)	06/12/2021	izrt_qbp_298997_3_20210612_000027.d
DOB: 11/17/2016   HRN: 999895	ARIZONA	IHS-43527232

Response ID: (11744123)    Query or VXU ID: (11743909)|

-----  
MSH|^~\&|ASIIS^^|ASIIS^^|RPMS^^|61588^^|20210612000207-0700||RSP^K11^RSP\_K1  
1|4985022043.101576952|P|2.5.1|||NE|NE||||Z42^CDCPHINVS^^|  
MSA|AA|IHS-43527232|  
QAK|IHS-43527232|OK|Z44^Request Evaluated History and Forecast^CDCPHINVS|  
QPD|Z44^Request Evaluated History and Forecast^CDCPHINVS|IHS-43527232|60660  
1999895^^^PHOENIX INDIAN MEDIC^MR|DEMO^PATIENT^CHILD^^^^L|JOE^JANE^^^^^M|20  
161117|F|4212 N 16TH ST^^PHOENIX^AZ^85016^USA^L|^PRN^PH^^^302^3731344|



# Review Query or VXU Sent

## 4 Review Query or VXU Sent

Select Original Query or VXU sent

Select Patient, VXU or Query Date or Message ID:      izrt\_qbp\_298997\_3\_20210612\_0  
00027.dat      DEMO,PATIENT CHILD      Jun 12,2021@00:00:27      IHS-43527232      A  
RIZONA

Select one of the following:

- 1              Immunization Information Only
- 2              HL7 Message Content

Which display option: Immunization Information Only// 2    HL7 Message Content

HL7 Message sent	Date/State	File Name/Message ID
-----	-----	-----
DEMO,PATIENT CHILD    (F)	06/12/2021	izrt_qbp_298997_3_20210612_000027.d
DOB: 11/17/2016    HRN: 999895	ARIZONA	IHS-43527232

Query or VXU ID: (11743909)

-----

MSH|^~\&|RPMS|61588|ASIIS|ASIIS|20210612000027-0700||QBP^Q11^QBP\_Q11|IHS-43  
527232|P|2.5.1|||ER|AL|||Z44^CDCPHINVS|61588^^^^^^^^^|

QPD|Z44^Request Evaluated History and Forecast^CDCPHINVS|IHS-43527232|60660  
1999895^^^PHOENIX INDIAN MEDIC^MR|DEMO^PATIENT^CHILD^^^L|JOE^JANE^^^M|20  
161117|F|4212 N 16TH ST^^PHOENIX^AZ^85016^USA^L^^|^PRN^PH^^^302^373134



## Send Scheduled Appointment Queries

Select a date for which to send queries for:  
Scheduled appointments only

Date for Appointment Queries: 6/12

Queries will be sent for all patients who have  
Scheduled appointments only on JUN 12, 2021

Press <ENTER> to continue or '^' to exit...:





# EHR Immunization Component

Source: **Immunization Record** Source: RPMS ▼

**Forecast**

DTAP,NOS	past due
POLIO,NOS	past due
HEP B,NOS	past due
MMR	past due

**Contraindications** Add Delete

**Immunization History**

Print Record Due Letter Profile Case Data Add Edit Delete

Registry	Vaccine	Visit Date	Age@Visit	Location	Reaction	Volume	Inj. Site	Lot	Manufacturer	VIS Date	Administered By	Vaccine Eligibility	Admin Date	Admin Notes
RPMS ONLY	DTaP (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	DTaP	08/01/2017	34 mths	2013 Demo-1 Tribal Clinic								Am Indian/AK Native	08/01/2017	
RPMS ONLY	IPV (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	HEP B PED (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	ROTA-1	12/20/2015	15 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	ROTA-5	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										



# EHR Immunization Component RPMS & State

Source: **Immunization Record** Source: **RPMS + AZ** AZ: Jul 16, 2021

**Forecast**

DTaP,NOS	past due
POLIO,NOS	past due
HEP B,NOS	past due
MMR	past due

**Contraindications**

**Immunization History**

Registry	Vaccine	Visit Date	Age@Visit	Location	Reaction	Volume	Inj. Site	Lot	Manufacturer	VIS Date	Administered By	Vaccine Eligibility	Admin Date	Admin Notes
RPMS ONLY	DTaP (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	HEP B PED (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	IPV (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	DTaP	08/01/2017	34 mths	2013 Demo-1 Tribal Clinic								Am Indian/AK Native	08/01/2017	
RPMS ONLY	ROTA-1	12/20/2015	15 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	ROTA-5	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										





# EHR Immunization Component Last Export Failure

Source: **Immunization Record** Source: **RPMS + AZ** AZ: No state data found **Refresh State** **State Immunization Profile** **No Query Response on file for TEST\_NEW/BABY (Click to Remove)**

**Forecast**

DTAP,NOS	past due
POLIO,NOS	past due
HEP B,NOS	past due
MMR	past due

**Contraindications** **Add** **Delete**

**Immunization History**

**Print Record** **Due Letter** **Profile** **Case Data** **Add** **Edit** **Delete**

Registry	Vaccine	Visit Date	Age@Visit	Location	Reaction	Volume	Inj. Site	Lot	Manufacturer	VIS Date	Administered By	Vaccine Eligibility	Admin Date	Admin Notes
RPMS ONLY	DTaP (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	DTaP	08/01/2017	34 mths	2013 Demo-1 Tribal Clinic								Am Indian/AK Native	08/01/2017	
RPMS ONLY	IPV (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	HEP B PED (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	ROTA-1	12/20/2015	15 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	ROTA-5	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										

# EHR Immunization Component (Examples)

## Example 1

Source: **Immunization Record** Source: **RPMS + AZ**

Patient: DEMO, CHILD A DOB: 10/29/2017 (3) SEX: FEMALE HRCN: 440902

The State immunization history and forecast are presented for reference purposes and may not be identical to information found in RPMS. Users can refer to State information to identify and update any immunizations missing from RPMS, but should always make clinical immunization decisions using the RPMS forecaster, which was designed in accordance with IHS immunization policy and best practice.

---FORECAST---

State Forecaster for ARIZONA for: Dec 11, 2020@16:01:33 Date run: Aug 04, 2020  
Schedule: ACIP

Imm	Status	Due Date	Earliest Date	Overdue
DTAP, NOS	Unknown	12/09/2020	12/09/2020	10/29/2137
POLIO, NOS		12/13/2018	12/13/2018	10/29/2137
HIB, NOS		12/29/2017	12/10/2017	10/29/2022
HEP B, NOS		10/29/2017	10/29/2017	10/29/2137
MMR	Overdue	10/29/2021	06/23/2020	10/29/2137
VARICELLA		06/23/2020	06/23/2020	10/29/2137
HEP A, NOS		10/29/2018	10/29/2018	10/29/2137
FLU, NOS		04/29/2018	04/29/2018	10/29/2137
PCV-13		12/29/2017	12/10/2017	10/29/2022
MenCV4, NOS	Unknown	10/29/2028	10/29/2028	10/29/2073
Men-B, Bex	Unknown	10/29/2033	10/29/2027	10/29/2043
Men-B, Trmb	Unknown	10/29/2033	10/29/2027	10/29/2043
HPV, NOS	Unknown	10/29/2028	10/29/2026	10/29/2117

---IMM HISTORY---

Date	CVX	Vaccine	Group	Complete	Status	Status Reason
07/26/2018	20	DTaP	DTORP	Complete		
11/15/2018	20	DTaP	DTORP	Complete		

017-DEMO-HQ.ABQ.IHS.GOV 2017 DEMO CLINIC TEHRA 11-Dec-2020

## Example 2

State Immunization Profile

Patient: DOB: 09/01/2012 (8) SEX: MALE HRCN: 1

The State immunization history and forecast are presented for reference purposes and may not be identical to information found in RPMS. Users can refer to State information to identify and update any immunizations missing from RPMS, but should always make clinical immunization decisions using the RPMS forecaster, which was designed in accordance with IHS immunization policy and best practice.

No query response on file for ARIZONA

## Example 3

State Immunization Profile

Patient: TEST, NEWBABY DOB: 09/03/2014 (6) SEX: FEMALE HRCN: 86009

The State immunization history and forecast are presented for reference purposes and may not be identical to information found in RPMS. Users can refer to State information to identify and update any immunizations missing from RPMS, but should always make clinical immunization decisions using the RPMS forecaster, which was designed in accordance with IHS immunization policy and best practice.

NO MATCH was found for 'TEST, NEWBABY'. for ARIZONA.



# EHR Immunization Component RPMS Only Options

Source: **Immunization Record** Source: **RPMS + AZ** AZ: No state data found Refresh State State Immunization Profile No Query Response on file for TEST\_NEWBABY (Click to Remove)

**Forecast**

DTaP,NOS	past due
POLIO,NOS	past due
HEP B,NOS	past due
MMR	past due

**Contraindications** Add Delete

**Immunization History**

Print Record Due Letter Profile Case Data Add Edit Delete

Registry	Vaccine	Visit Date	Age@Visit	Location	Reaction	Volume	Inj. Site	Lot	Manufacturer	VIS Date	Administered By	Vaccine Eligibility	Admin Date	Admin Notes
RPMS ONLY	DTaP (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY	DTaP	08/01/2017	34 mths	2013 Demo-1 Tribal Clinic								Am Indian/AK Native	08/01/2017	
RPMS ONLY	DTaP (PEDIARIX)	08/01/2016	22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY			22 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY			15 mths	2021 DEMO HOSPITAL (INST)										
RPMS ONLY			22 mths	2021 DEMO HOSPITAL (INST)										
REFUSED					Not indicated									

**Context Menu:**

- Add Vaccination
- Edit Vaccination
- Delete Vaccination
- Print Official Record
- Print Due Letter
- Print Profile
- Case Data
- Display Visit Detail
- Web References



# Questions & Discussions