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National Integration: Using Creativity to Meet Novel Integration Use Cases

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The Problem

- Australian Immunisation Record (AIR)
 - Proposed required reporting of COVID / flu from Mar 2021
 - Proposed required reporting of all vaccines from Jul 2021
 - Custom XML format for reporting
- ePrescribing
 - True, paperless ePrescribing became legal just prior to COVID
 - COVID opens up many virtual clinics / telehealth; what do to for clinicians stuck at home?
 - Multiple custom XML formats for submission



Alfred and Victoria Partnerships

- Looked for partners to work through both clinical and integration workflows
- Alfred Health worked through clinical design and testing partnership of front-end product
- Department of Health, Victoria developed “last-mile” integration and supported real-world testing



AIR – What Did We Do?

- Identified the specific fields which needed clinical input
- Designed orders / administration to capture details
- Utilised the standard HL7 v2.x VXU interface with additional logic for custom fields
- Utilised the Department of Health – Victoria's interface engine to adjust to custom XML format
- Integrated success / failures back as standard HL7 v2.x results



AIR – Ordering / Administration

(ADT Booster (diphtheria-tetanus toxoids (dT)) 2 units-20 units/0.5 mL intramuscular suspension)

Remaining Administrations: 1 Stop: 11/07/2022 12:00:00 Australia/Melbourne

*Drug form: Injection

*Frequency: ONCE only

*First dose date/time: 11-07-2022 12:00 Australia/M...

*Vaccine dose number: **Booster dose**

Max PRN dose/24 hrs: 1st vaccine dose
2nd vaccine dose

Infuse over unit: 3rd vaccine dose
Booster dose

Charting for: TESTER, MS ZHI LING

hepatitis B adult vaccine (Engerix-B Adult (hepatitis B adult vaccine) 20 mcg/mL)
20 mcg = 1 mL, Injection, IM, start: 17/09/21 08:00:00 Australia/Melbourne

*Performed date / time: 16/09/2021 1952 Australia/Melbourne

*Performed by: Cert, Medical Consultant P1

Witnessed by:

Immunisation Serial Number: 12345

*Lot Number:

*Manufacturer:

*Expiration Date:

*hepatitis B adult vaccine: 20 mcg Volume: 1 ml

*Route: IM *Site:

Total Volume: 1 Infused Over: 0

16-09-2021	16-09-2021	16-09-2021	16-09-2021
1800 Australia/Melbourne	1900 Australia/Melbourne	2000 Australia/Melbourne	2100 Australia/Melbourne

Not Given

Exception: Exception Reason:

Comment



AIR – Success Message

Result type: AIR Response
Result date: 27 June, 2022 09:11 Australia/Melbourne
Result status: Auth (Verified)
Result title: AIR_RESPONSE
Encounter info: 15768848, The Alfred, Inpatient, 24-06-2022 -
Contributor system: CERNER_AIR

* Final Report *

AIR_RESPONSE

Success: AIR-I-1007:All encounter(s) were successfully recorded.

Success: AIR-I-1000:Encounter was successfully recorded.

Success: AIR-I-1003:Dosage was adjusted to V

AIR Claim ID: WB00HGT\$



ePrescribing – What Did We Do?

- Designed additional required fields, rules, and printer logic to meet conformance criteria
- Utilised HL7 v2.x orders message with adjustments for additional fields mapped to proprietary XML fields
- Utilised HL7 v2.x orders incoming message to update order with prescription details and transmission status



Orders for Signature

Order Name Status Start Details

AU 1N; 122; 2 Fin#:AU-000003924 Admit: 17/11/2020 2:09 PM AEDT

Medications

alprazolam (alprazola... Prescribe: 19/05/2021 1:18 P... 1 tab(s), Oral, daily, Qty: 20 tab(s), 0 Repeat(s), Non PBS, eRx transmission status: Not Sent

Details for **alprazolam (alprazolam 0.5 mg oral tablet)**

Send To: Do Not Send; called to pharmacy (Rx)

Details Order Comments Diagnoses PBS

*Dose	*Route of Administration	*Frequency	Duration	*Dispense	*Refill
1 tab(s)	Oral	daily		20 tab(s)	0

Drug Form:

PRN:

Max Dose/24 hours:

Special Instructions:

PBS Status: Non PBS

PBS Code:

PBS Restriction ID:

PBS Approval Number:

PBS Script Number: 15,220,258

Patient Email Address: rambosemail123@gmail.com

*Prescription Delivery Method:

Patient Mobile Number: (+61)45766999

*Start Date/Time: 19/05/2021 13:18 AEST

Repeat Interval (days):

*Confirm Max Qty Authorised (In Words) For Controlled ...

Type Of Therapy: Acute Maintenance

Indication:

Brand Substitution Not Permitted: Yes No

Emergency Supply/Send Direct to Pharmacy: Yes No

Prescriber Acknowledgement Unusual Details:

Reg 24: Yes No

Unlisted Item Repat Authority: Yes No

Send to MySL: Yes No

Item Generic Intention: Yes No

Prescriber Qualification Notice:



Key Lessons Learned

- Look to utilise standard customisation / configuration tools to meet your clinical documentation needs
 - Order fields, results, charting elements, clinical decision support, etc.
 - Benefit: your clinical-facing design is supportable by vendor
- Even if your final submission format isn't an international standard, use your vendor's support for standards to get the data triggered outbound / processed inbound and then re-format using other tools
 - Benefit: Gets the data in / out of EMR in a standard way