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FINAL REPORT

Digital Health Case Study / Workflow / Integration 2022

Please note: this report will be published on the RACP website, so please do not include confidential information.

Name	Dr Samridh Nagar
Report Date	13/05/2022
Report Title	Importance and ease of access of the immunisation records through My Health record

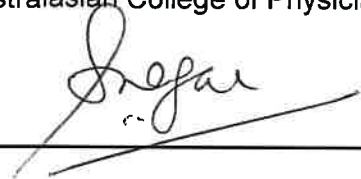
Lay Summary: Please provide a brief, plain English summary of your Case Study / Workflow or Integration example.	The access to immunisation records through the tab 'Immunisation consolidated view' in My health record is very useful as the clinician can get the information in the same portal with other important medical records for a child.
Case Study/Workflow/Integration Objective: Please state the objective of this example and why you focussed on it.	<p>AS was born preterm at 26 weeks gestation as one of the twin and had a long course in the neonatal intensive care unit. The pregnancy was complicated by IVF, twin pregnancy, premature prolonged rupture of membranes, and Gestational diabetes. Both the twins had a long stay in the nursery for 60 days and then discharged with a plan to follow-up by the local regional paediatrician.</p> <p>Considering prematurity at 26 weeks gestation, additional vaccines for premature infants are recommended according to the NSW immunisation schedule which include additional vaccine at 6 month- Prevenar 13, additional vaccine at 12 months – Hepatitis B and another at 4 years of age – Prevenar 23.</p> <p>The baby missed an extra Hepatitis B vaccine and also the 4 years Prevenar 23 which came into notice after accessing the 'Immunisation consolidated view' on My Health record and then the catch up vaccination was organised.</p>

<p>Benefits & Considerations:</p> <p>Please outline the benefits and considerations in the use of My Health Record and/or related digital health initiatives in this example.</p>	<p>There is a significant benefit of accessibility of the Immunisation records at a single portal with other major and relevant health information and therefore the immunisation details are less likely to be missed. In this case, the vaccinations as per the recommendations for preterm infants were missed but the clinician has to be aware of the additional vaccine requirements for premature infants.</p>
<p>Additional Advice and Comments:</p> <p>Please list any items of interest which have arisen as a result of documenting this particular example.</p>	<p>The additional vaccines needed for premature infants may be included in the Immunisation register digitally in My health records so that they can be somehow flagged as missed vaccinations.</p>
<p>Acknowledgements</p>	<p>NSW immunisation schedule (Australian Immunisation Handbook 2020)</p>

Award Recipient Signature:

I certify that the information supplied in this report is true and correct. I consent to enquiries made by the Royal Australasian College of Physicians to verify this information with any institution or individual.

Signature: _____



Please submit completed and signed report to:
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Name	Dr Samridh Nagar
Report Date	12/05/2022
Report Title	Importance and utility of Electronic prescribing in the prevention of dosing errors for babies and infants in neonatal intensive care units and special care nurseries

Lay Summary: Please provide a brief, plain English summary of your Case Study / Workflow or Integration example.	Prescribing of medications in neonates is based on the birth weight, gestational age, postnatal age and all these factors change the dose and interval /frequency of administration. There is a possibility of dosing errors which can occur often due to miscalculation of doses based on weights of infants in single figures and the presence of decimal points and then compounded by the small drug doses for neonates and children. With the use of electronic prescribing in neonatal units and paediatric wards, these incidents are expected to reduce in frequency.
Case Study/Workflow/Integration Objective: Please state the objective of this example and why you focussed on it.	<p>Vancomycin, an antibiotic is an example of medications which vary in dosing and interval of administration based on the gestational age, the day of life and the dosing intervals. It is a nephrotoxic drug if not given in the right dose and frequency.</p> <p>Similarly the doses of Dexamethasone as per the DART trial for facilitating extubation or weaning of ventilator support for babies with Chronic lung disease/ BPD is another example.</p> <p>Below is the example of Low dose DART trial Low dose (DART) regimen (total cumulative dose 0.89 mg/kg) 75 microgram (0.075 mg)/kg/dose 12 hourly for 3 days then, 50 microgram (0.05mg)/kg/dose 12 hourly for 3 days then, 25 microgram (0.025 mg)/kg/dose 12 hourly for 2 days then, 10 microgram (0.010 mg)/kg/dose 12 hourly for 2 days then cease.</p> <p>There are similarly moderate dose (18 days with weaning doses) and high dose (longer duration with weaning doses) regimes which may complicate the calculation process and chances of dosing errors increase</p> <p>These are just a few examples to highlight the issues and there are many medication doses in small numbers with decimals.</p>

<p>Benefits & Considerations:</p> <p>Please outline the benefits and considerations in the use of My Health Record and/or related digital health initiatives in this example.</p>	<p>The benefits of electronic prescribing in nurseries are substantial and this has reduced the dosing errors based on the variability of gestational age, day of life and intervals. Dosing weight and age facilitates the computerised calculations and reduces manual calculation based dosing errors.</p>
<p>Additional Advice and Comments:</p> <p>Please list any items of interest which have arisen as a result of documenting this particular example.</p>	<p>Longer periods of stay in the nursery for preterm infants and small babies and therefore the need for frequent and accurate calculations as well as the necessity of changing doses and dosing intervals has been supported well after the introduction of Electronic prescribing with the reduction in dosing errors. Embedding the Gestational age and weight based protocols like DART in the Electronic prescribing system will be beneficial in the future.</p>
<p>Acknowledgements</p>	<p>Doyle LW, Davis PG, Morley CJ, McPhee A, Carlin JB. Outcome at 2 years of age of infants from the DART study: A multicenter, international, randomized, controlled trial of low-dose dexamethasone. Pediatrics. 2007; 119(4):716-21.</p> <p>I acknowledge the discussions with Dr Sujit Gorantiwar, Neonatal fellow who provided his views and opinion about the current uses of Electronic prescribing in neonatal intensive care units.</p>

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