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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 Yong Yau Paul Chia
Report Date	18 May 2022
Report Title	My Health Record and exposing opioid misuse, polypharmacy and "doctor shopping".

Lay Summary: Please provide a brief, plain English summary of your Case Study / Workflow or Integration example.	An 81-year-old lady was admitted to hospital for reported acute on chronic back pain. She had conflicting history information about her usual and previous medications, including opioid and psychoactive polypharmacy. A rapid review of My Health Record found her dispensing history of tapentadol SR 100mg nocte, buprenorphine 20microgram/h weekly patches last dispensed eight weeks ago, discrepant dispense records about hydromorphone – both hydromorphone modified release tablet 8mg daily and also hydromorphone modified release tablet 4mg daily had been dispensed on the same day, and hydromorphone modified release tablet 2mg daily dispensed two months ago. She also had pregabalin 75mg twice daily and duloxetine 120mg daily, last dispensed seven weeks ago. From the medication information conveniently available on My Health Record, it was possible to make plans for her opioid and psychoactive polypharmacy, with a view to avoiding harm and ideally weaning off some of these medications.
Case Study/Workflow/Integration Objective: Please state the objective of this example and why you focussed on it.	My Health Record helped to easily and rapidly unearth this patient's dispensing history. This case illustrates how My Health Record helped to clarify polypharmacy issues and form practical strategies for addressing the opioid and psychoactive medication misuse.

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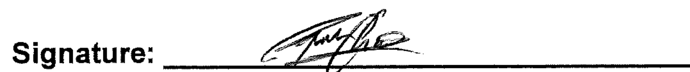
Benefits & Considerations: Please outline the benefits and considerations in the use of My Health Record and/or related digital health initiatives in this example.	My Health Record can be used to discovered what medications and doses have been dispensed on what dates, which is valuable information for a physician, for whom a mainstay of treatment is medication. This is particularly important for patients who may have drug-seeking behaviour, and even "doctor shopping" to obtain opioids and other psychoactive medications from multiple providers. The dispensing history available through My Health Record can ascertain whether medications have been dispensed from multiple pharmacies or prescribed by multiple prescribers.
Additional Advice and Comments: Please list any items of interest which have arisen as a result of documenting this particular example.	Opioid misuse is a significant problem in Australia and internationally. Locating and tracking multiple dispenses of opioids can be difficult without a digital health platform that pulls together information from pharmacies, especially if patients were engaged in "doctor shopping" and did not disclose which doctors and pharmacies they visited. My Health Record and electronic medication tools can be seen to be very useful for strategically addressing a nationally-important opioid misuse problem.
Acknowledgements	Pharmacy staff are acknowledged for drawing attention to the availability of dispensing information on My Health Record, of relevance and utility to prescribers.

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: 

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Name	Dr Yong Yau Paul Chia
Report Date	18 May 2022
Report Title	Digital health record retrieval of dispensing history informs high-stakes management decisions, regarding coronary artery disease and medication adherence.

Lay Summary: Please provide a brief, plain English summary of your Case Study / Workflow or Integration example.	A 74-year-old male presented to hospital for exertional central chest pain whilst walking, and a fall in the context of alcohol intake. His electrocardiography showed sinus rhythm without acute ischaemic changes. High-sensitivity troponin I levels rose from 7 to 133ng/L over 20 hours. He was diagnosed with and managed for an acute myocardial infarction (heart attack) and reviewed by Cardiology regarding doing a coronary angiogram. The question of whether the patient would be for coronary stenting was raised, depending on whether the patient would adhere to regularly taking dual antiplatelet therapy if he were given coronary stents. Without good adherence to taking these medications, there would be an increased risk of stent thrombosis and complicated outcomes. My Health Record was useful to find out that this patient's latest dispense for atorvastatin and anti-hypertensive medications (ramipril and prazosin) was ten months ago, suggesting that the patient did not adhere well to medical treatment plans. He underwent a coronary angiogram and was shown to have severe triple-vessel coronary artery disease. He was discharged on medication management for his coronary artery disease, and the plan was for him to have a coronary artery bypass graft only if he failed best attempts at medication management.
Case Study/Workflow/Integration Objective: Please state the objective of this example and why you focussed on it.	This example has been chosen to demonstrate how My Health Record can be used to rapidly retrieve dispensing history at the point-of-care, and thus provide possibly useful evidence regarding a patient's level of adherence to medical therapy. This evidence in turn can be significant in medical decision-making regarding treatment options.

Benefits & Considerations: Please outline the benefits and considerations in the use of My Health Record and/or related digital health initiatives in this example.	Pharmaceutical dispensing history can be a useful tool in evaluating medication adherence, although it is not the only source of collateral history about adherence to prescribed medications. Prior to the advent of My Health Record, retrieving this information would have been laborious, requiring phone calls to all the community pharmacies that a patient may use, and therefore unlikely to be done. Now, with My Health Record, medication history information including last dispensing dates can be rapidly retrieved at the point-of-care. If patients have not had medications dispensed for a long time, this could mean intentional cessation of those medications by a prescriber (and possible issues with the accuracy of previously-taken medication histories), or a lack of adherence to medication plans. Such information may be used in diagnostic and treatment decision-making.
Additional Advice and Comments: Please list any items of interest which have arisen as a result of documenting this particular example.	Issues with adherence to medication treatment plans or accuracy of previously-taken medication histories may come to attention for a number of reasons. For example, a patient who has a poorly controlled chronic condition such as diabetes mellitus and hypertension, despite apparently adequate medication plans, may have issues with adherence or cognitive capacity to manage medications. Alternatively, observed symptoms or signs of cognitive impairment may flag such issues to a treating doctor or pharmacist's attention. Further information about adherence issues or cognitive impairment may be obtained from retrieving pharmaceutical dispensing histories, and may even be among the first clues towards making a diagnosis of dementia.
Acknowledgements	Acknowledgement is made to Cardiology colleagues who were involved in illustrating the effect of a patient's medication adherence on decision-making about coronary artery disease management.

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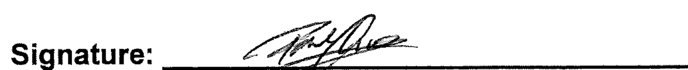
Signature: 

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Name	Dr Yong Yau Paul Chia
Report Date	18 May 2022
Report Title	Digital health record retrieval of allergic reaction details: instrumental in antibiotic allergy delabelling at the point-of-care.

Lay Summary: Please provide a brief, plain English summary of your Case Study / Workflow or Integration example.	A 38-year-old male from a group home was brought in by ambulance to hospital for profuse vomiting, on the background of a previous spinal cord injury and paraplegia. He was diagnosed with sepsis and ileus due to an aspiration pneumonia. He had a reported allergy to penicillin, without clearly remembering details of this. There was a record of a previous allergy consisting of a rash to penicillin on a discharge summary from 13 months ago, but on a review of My Health Record and digital hospital records, there was no evidence that an antibiotic allergy event had occurred within the last five years. It was ultimately confirmed on digital medical records that he had a mild rash reaction to penicillin over five years ago, with no anaphylaxis, angioedema or severe skin reaction, and no treatment required. Based on this information, he had a penicillin allergy risk tool "PEN-FAST" score of zero, and he consented to an oral penicillin challenge test with amoxycillin. This enabled him to have treatment for aspiration pneumonia with an antibiotic treatment plan including a penicillin, which was a preferred treatment for good clinical outcomes and avoiding antibiotic resistance.
Case Study/Workflow/Integration Objective: Please state the objective of this example and why you focussed on it.	This case powerfully illustrates the use of My Health Record and digital medical records in very helpfully unearthing further details about an antibiotic allergy, which may have otherwise been difficult to retrieve rapidly. This patient had a reported antibiotic allergy that would have prevented him from being treated with a penicillin antibiotic, except that his antibiotic allergy label was able to be removed through a rapid digital search at the point-of-care, in addition to asking the patient to remember his medical history.

Benefits & Considerations: Please outline the benefits and considerations in the use of My Health Record and/or related digital health initiatives in this example.	My Health Record and digital health records can be invaluable for clarifying and amending allergy labelling. My Health Record is particularly useful for storing and retrieving this information across hospitals and healthcare systems, even when a patient gets seen at a different hospital to the one in which an allergic reaction to a medication was experienced. Often when a patient arriving in hospital is labelled with a medication allergy, finding out the details of a reaction to a medication is elusive, with the patient's memory of details being unclear. Antibiotic allergy delabelling is important in antimicrobial stewardship, and thus this can be seen to be an important benefit of digital health.
Additional Advice and Comments: Please list any items of interest which have arisen as a result of documenting this particular example.	It would be useful for My Health Record and digital medical records to be routinely used to capture and retrieve medication allergy information from previous hospital admissions and medical encounters. This is a key strategy for antibiotic allergy delabelling, which is a nationally recognised issue in Australia, and indeed is an internationally recognised issue.
Acknowledgements	Acknowledgement is given to healthcare workers including doctors, pharmacists, and other healthcare professionals who add medicines and allergy information to My Health Record, discharge summaries, and other digital health records.

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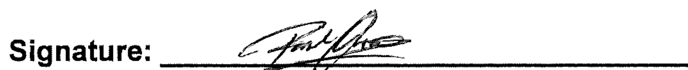
Signature: 

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