

The Adverse Drug Reaction Journey: Improving Management to Decrease Patient Harm

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BACKGROUND

Alfred Health: 800–bed inpatient referral network of hospitals in Melbourne providing state–wide health services to Victoria, Australia.
Adverse Drug Reaction (ADR)s are reviewed by a multidisciplinary committee with specialists in allergy, dermatology, general medicine, infectious diseases, medicines information, medication safety.

In 2023 there were 231 referrals reviewed

- 8% severe cutaneous adverse reactions (SCARS*)
- 20% medication-related anaphylaxis
- antimicrobial agents moist commonly implicated (48%)
- 38% inpatients had at least one ADR documented on admission

My Health Record (MHR) is a national electronic patient held health information system. Registered healthcare providers and patients may access medications prescribed, dispensed, hospital discharge summaries, pathology, medical imaging, adverse reactions/ allergies.

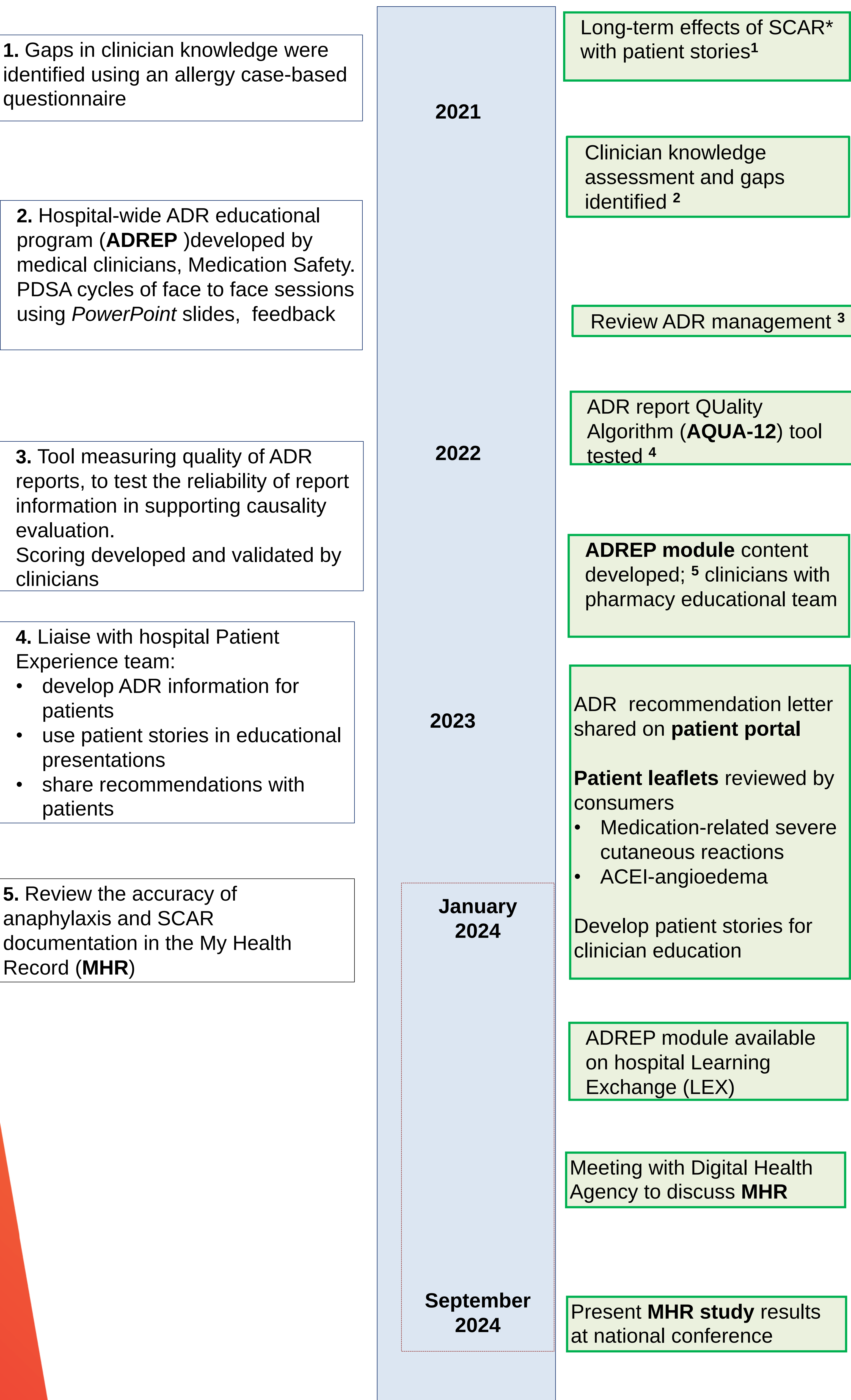
Patient harm from ADRs occurs with incomplete communication and allergy documentation, lack of patient and clinician knowledge.

AIM

Decrease the risk of patient harm by improving:

- Clinician competency in identifying and managing ADRs
- Documentation and communication of severe adverse reactions for patients and clinicians

METHODS



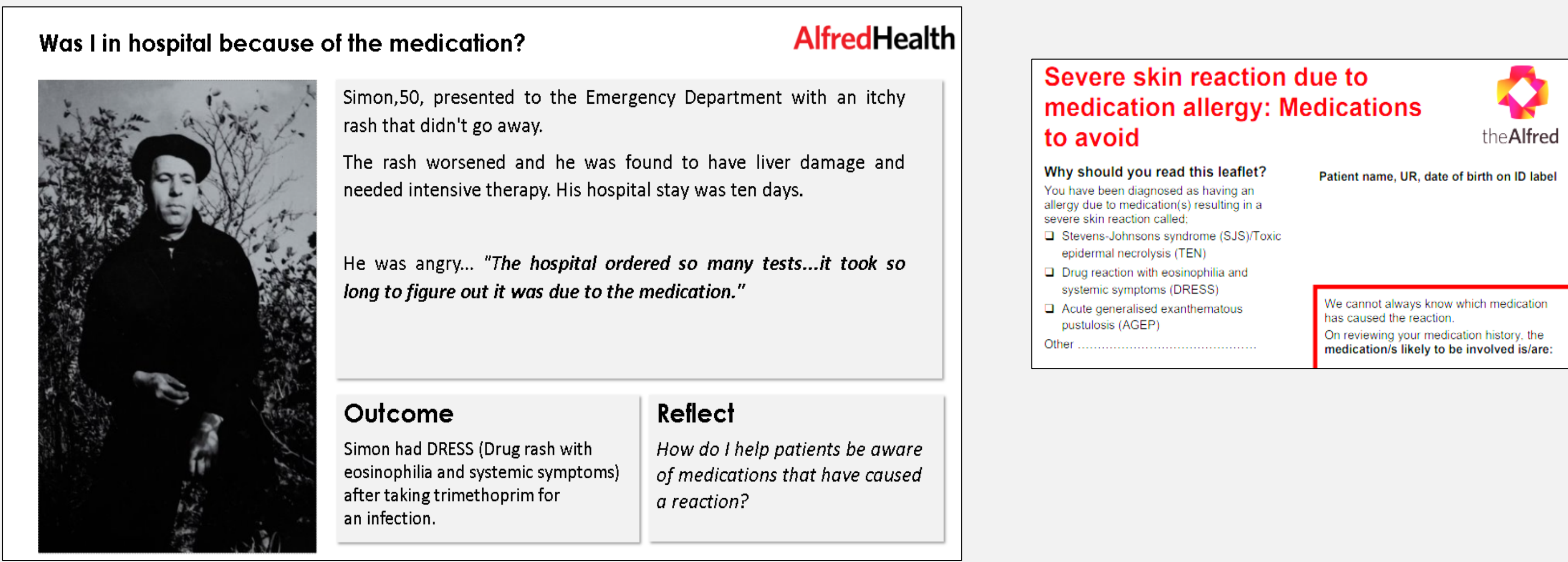
*SCAR=Severe Cutaneous Adverse Reactions: Stevens Johnson Syndrome/Toxic Epidermal Necrolysis, Drug Reaction with Eosinophilia and Systemic Symptoms, Acute Generalised Exanthematous Pustulosis

RESULTS

- 1) Gaps in knowledge identified**
- 13-question, scenario-based multiple-choice questionnaire to assess specific knowledge domains in drug hypersensitivity syndromes
 - Completed by 230 doctors and pharmacists
 - Best performance; syndrome recognition (60.9%)
 - Poorest; diagnostics/therapy (52.0%)
- 2) Development hospital-wide ADR educational program (ADREP)**
- Six interactive modules developed with clinician feedback
 - PowerPoint slides converted to Articulate / Rise platform for self-directed learning. Access not mandated, available via the hospital's education portal (LEX).
 - By August 2024 accessed by 50 clinicians
- 3) Measurement of the quality of adverse reaction referrals**
- ADR report QUality Algorithm (AQUA 12) tool developed and validated
 - 70 reports scored with a high inter-rater reliability.
 - One in five reports had low quality.

4) Patient experience with ADRs

- ADRRC letters available on the hospital consumer portal
- Patient information leaflets developed with patient input
- Patient stories for clinician education sessions



5) My Health Record (MHR) allergy documentation reviewed

- 88 patients with confirmed severe reactions to 134 culprit medications
 - 15.9% concordance (correct medication/s + reaction) in MHR allergy section
- Gaps identified:
- patients did not enter own data
 - reactions not able to be extracted from discharge summaries
 - only selected healthcare providers able to enter allergy information

Next steps

- 1) ADR Education Program**
- Evaluation of ADREP - knowledge improvement & quality of referrals
 - Sharing with university undergraduate courses, other organizations
- 2) My Health Record**
- Work with the Australian Digital Health Agency to improve ADR documentation
- 3) Patient-held information**
- On-going liaison - support patient uploading own ADR information onto MHR

Publications

- Graudins et al. **More than skin deep. Ten-year follow-up of delayed cutaneous ADR.** Br J Clin Pharmacol. 2016
- Mazzoni et al. **Survey on Knowledge Gaps in Assessment and Management of Severe Drug Hypersensitivity Reactions.** J Clin Pharmacol. 2021
- Aung et al. **Adverse drug reaction management in hospital settings: review on practice variations, quality indicators and education focus.** Eur J Clin Pharmacol. 2022
- Aung et al. **Development and Application of Adverse Drug Reactions Reports Quality Algorithm (AQUA-12) Score.** Eur J Clin Pharmacol. 2023
- Aung et al. **An integrated scenario-based adverse drug reaction education programme.** Med Educ. 2023

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