

Medication Error Reporting Programme: strengthening pharmacovigilance in NZ

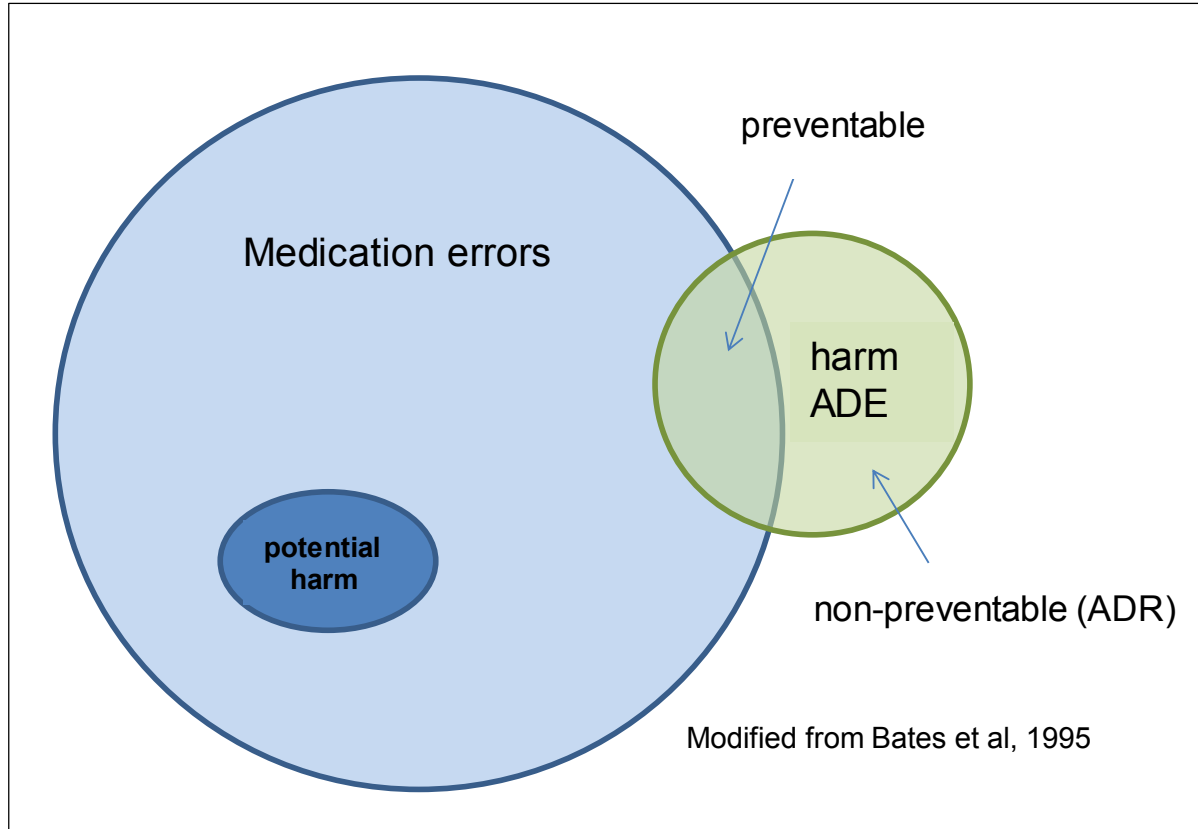


Dr Michael Tatley and Dr Desirée Kunac
New Zealand Pharmacovigilance Centre

Overview

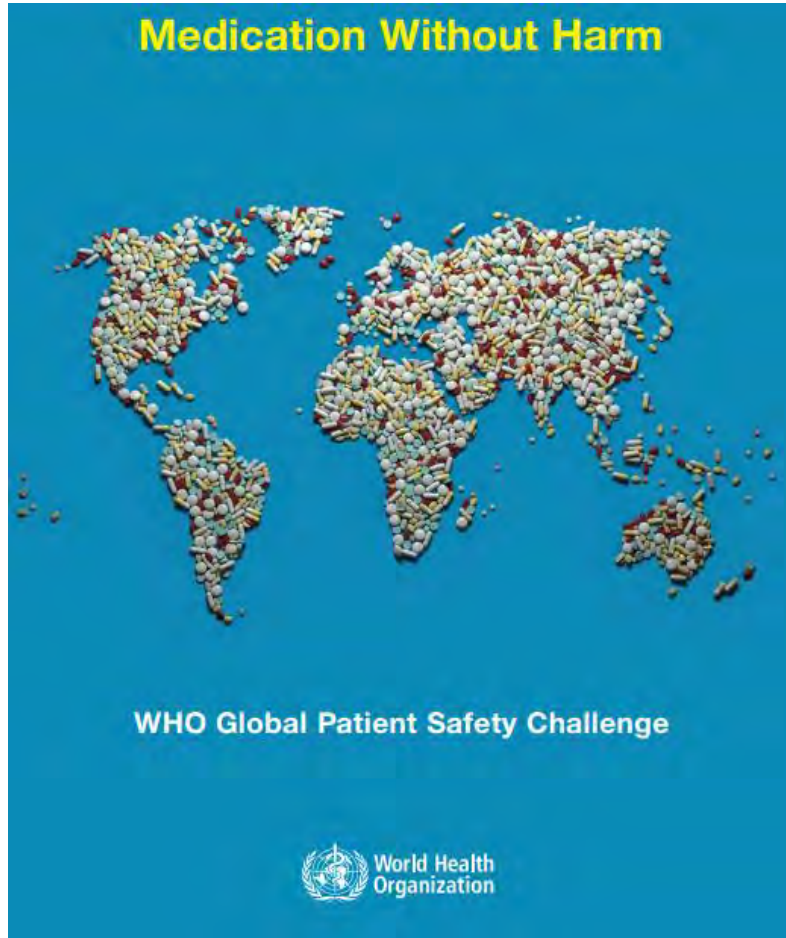
- Medication Error
 - important component of pharmacovigilance
- About the MERP
 - design features and operation
 - how the MERP helps to inform national medication safety initiatives
- The MERP vision for a sustainable future
 - next steps

Medication-related events



Medication Without Harm:

WHO's 3rd Global Patient Safety Challenge

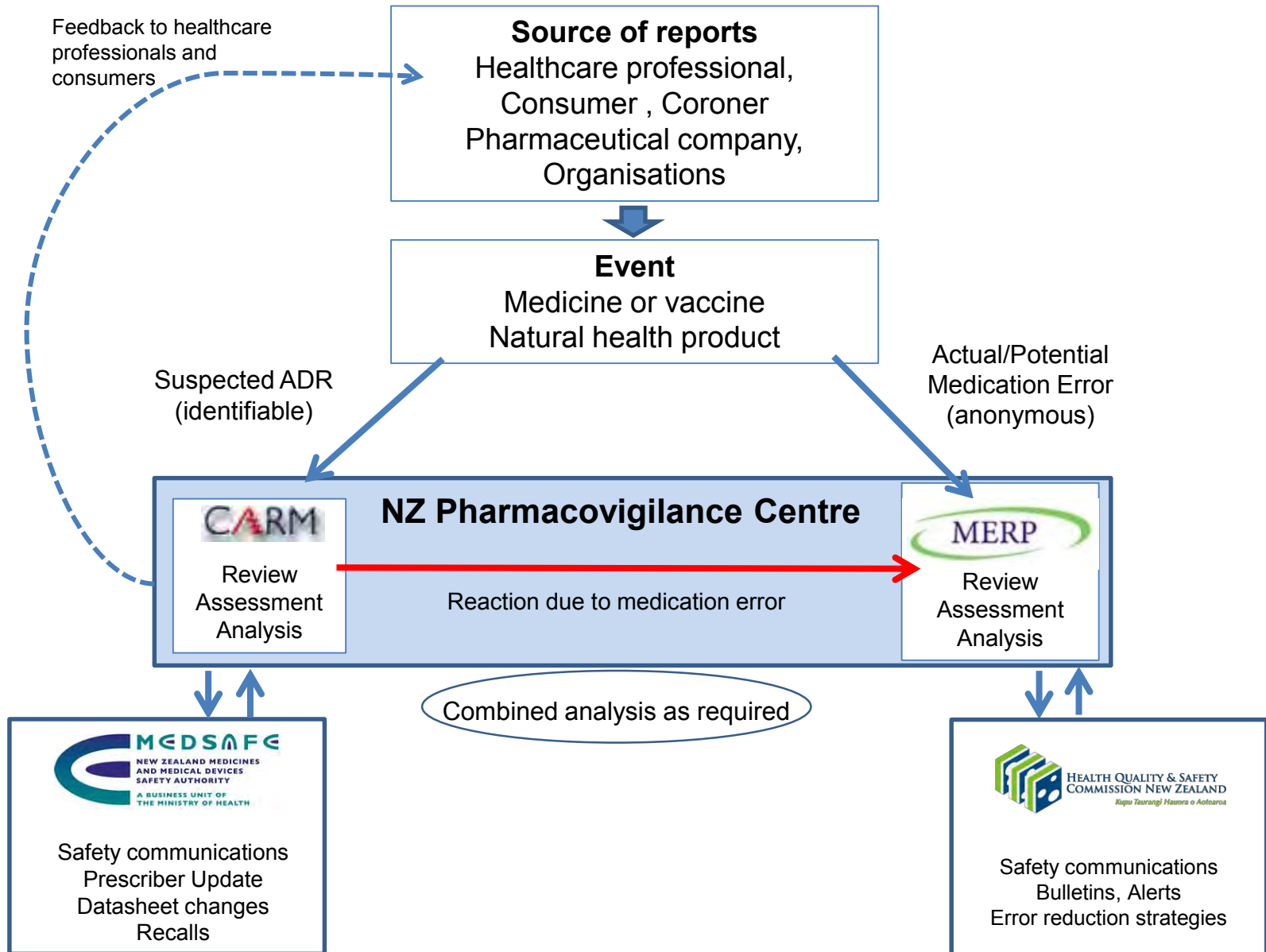


Launched March 2017

Medication errors

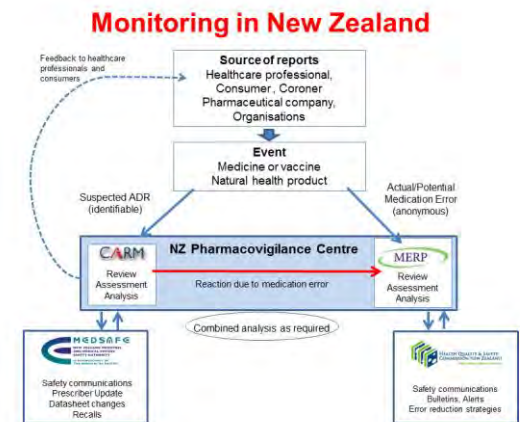
- leading cause of preventable harm across the world
- globally, estimated cost \$42 billion USD annually
- can occur at different stages of the medication use process
- **AIM:** to reduce serious preventable medication-related harm by 50%, globally in the next 5 years

Monitoring in New Zealand



MERP within NZPhvC

- Integrated collaborative approach to managing medicine harms
 - One portal for ADR and Med Error reports
 - Wider (national) perspective of medicine harms
 - Expertise in review and analysis of medicine harms
 - Recognition of different underlying issues behind ADR and Med Error
- Synergy of CARM and MERP
 - Complementary programmes
 - Cross programme awareness
- National Centre for medication “vigilance”
 - National dataset
 - informing national policy
 - valuable resource for research, teaching



International direction for PV

June 2013

- European Union Directive 2010/84/EU
- Expanded role of pharmacovigilance
- Definition of ADR to include medication error
- Pharmacovigilance Centres and Regulators more involved in management of medication errors
 - Morocco, Denmark, Canada, UK

Medication Error Reporting Programme (MERP)

Purpose

- To coordinate the capture and analysis of medication errors in primary care. Vast majority of medications are prescribed in primary care, but little is known about the extent of errors / harm or their causes
- To identify **weaknesses** in medication use systems that can be **targeted** for improvement to **reduce** the risk of **harm to patients**

Core principles

- voluntary and anonymous
- confidential
- easy and quick to report (5 mins)
- focus on systems – what happened not who
- near misses and actual errors
- quality data collection
- meaningful and timely analysis
- visible action taken
- integral to a national patient safety programme

Advantages of the MERP

Quality reports, reliable data

- Able to capture medication near miss and actual errors in primary care
- core dataset critical to learning
- systems based causes of errors – possible contributing factors
- link to NZULM for medicine name
- Structured online report form, easy to use

Standard taxonomy

- consistent framework for across sector use
- based on international classifications (WHO Global Challenge)
- common format facilitates timely and meaningful analysis

Capacity to collate data from other organisations

- minimise duplicate reporting
- learning from events that may otherwise be held locally

Growing source of information on primary care events



Medication Error
Reporting Programme

MERP Milestones

ORIGINAL RESEARCH ARTICLE

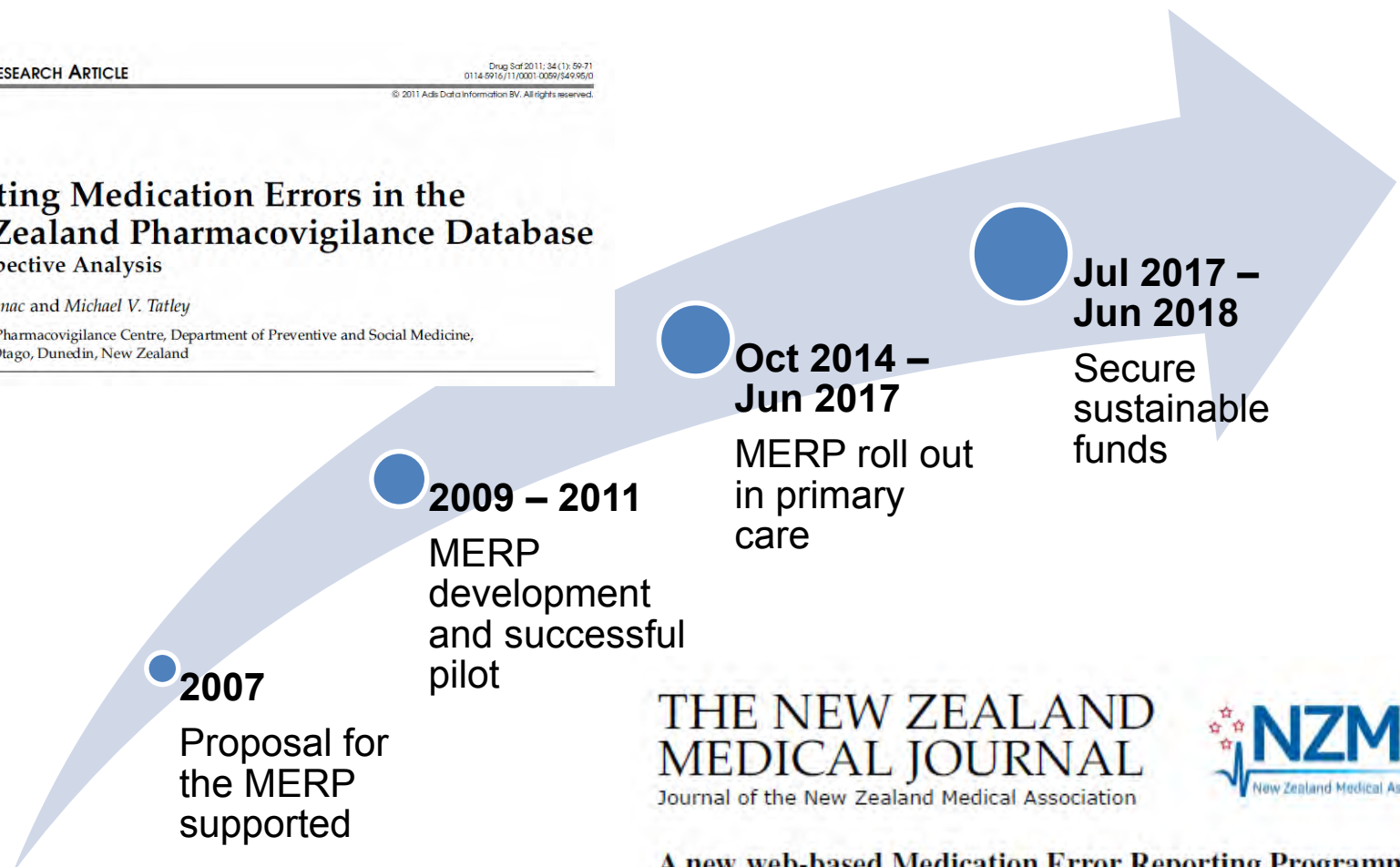
Drug Saf 2011; 34(1): 69-71
0114-8916/11/0001-0069/\$49.00/0

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Detecting Medication Errors in the New Zealand Pharmacovigilance Database A Retrospective Analysis

Desirée L. Kunac and Michael V. Tatley

New Zealand Pharmacovigilance Centre, Department of Preventive and Social Medicine,
University of Otago, Dunedin, New Zealand



2007
Proposal for
the MERP
supported

2009 – 2011
MERP
development
and successful
pilot

**Oct 2014 –
Jun 2017**
MERP roll out
in primary
care

**Jul 2017 –
Jun 2018**
Secure
sustainable
funds



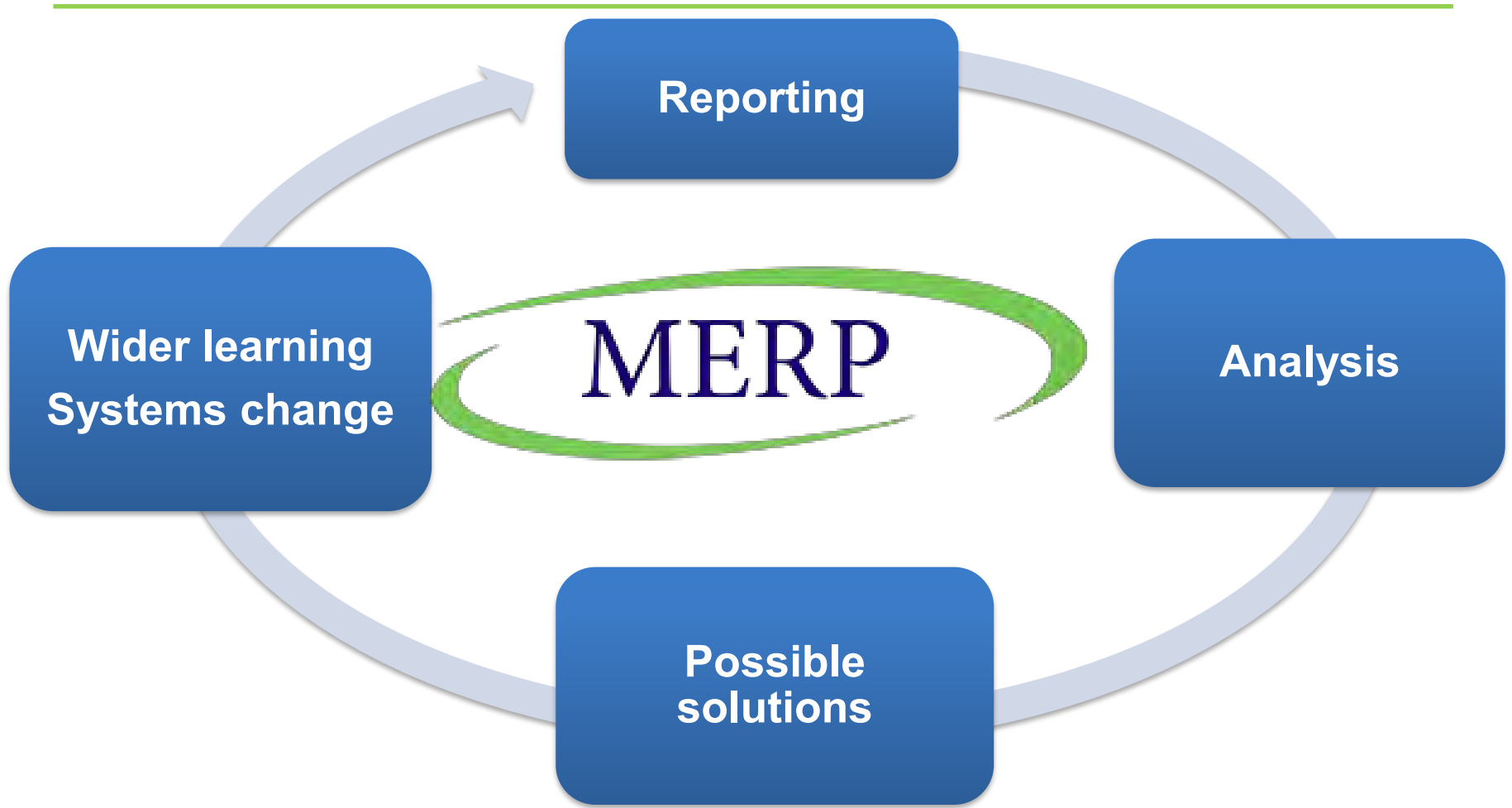
Medication Error
Reporting Programme

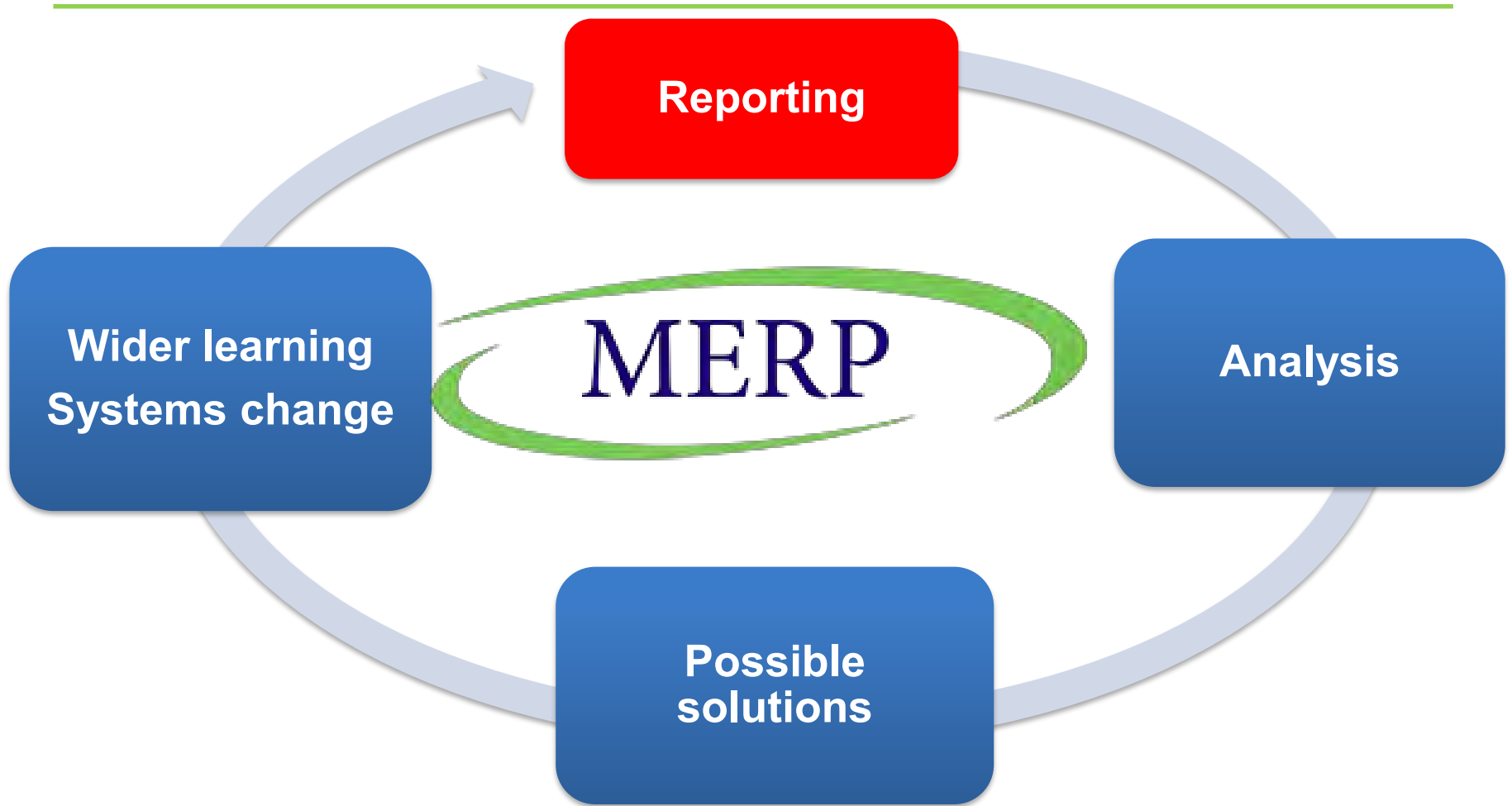
**THE NEW ZEALAND
MEDICAL JOURNAL**
Journal of the New Zealand Medical Association



A new web-based Medication Error Reporting Programme (MERP) to supplement pharmacovigilance in New Zealand—findings from a pilot study in primary care

Desirée L. Kunac, Michael V. Tatley, Mary E. Seddon





Reporting to MERP - Individual healthcare professionals

<https://nzphvc.otago.ac.nz/>



MERP - Medication Error Reporting Programme
a service provided by the NZ Pharmacovigilance Centre



All fields are optional but please complete as many fields as possible as the more information you provide, the more useful the report. Information submitted will be handled in confidence. Please do not supply identifying information (e.g., patient name or date of birth, pharmacy name, or healthcare provider names).

Please advise who is making this report	<input type="text" value="Please select..."/>																																										
Please advise your region	<input type="text" value="Select a DHB"/> Show map																																										
Date event occurred	<div><p>September 2015</p><table><thead><tr><th>Su</th><th>Mo</th><th>Tu</th><th>We</th><th>Th</th><th>Fr</th><th>Sa</th></tr></thead><tbody><tr><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr><tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr><tr><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr><tr><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr><tr><td>27</td><td>28</td><td>29</td><td>30</td><td></td><td></td><td></td></tr></tbody></table><p>23-Sep-2015 OR <input type="checkbox"/> date unknown</p></div>	Su	Mo	Tu	We	Th	Fr	Sa			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30			
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Time event occurred	<input type="text" value="Unknown"/>																																										
Event Type	<input type="text" value="Select..."/>																																										
Medication system stages involved (select all that apply)	<input type="checkbox"/> prescribing <input type="checkbox"/> supply/purchasing <input type="checkbox"/> dispensing <input type="checkbox"/> presentation/packaging <input type="checkbox"/> administration <input type="checkbox"/> delivery <input type="checkbox"/> monitoring / follow up <input type="checkbox"/> not applicable (unable to determine one or more of the listed stages)																																										

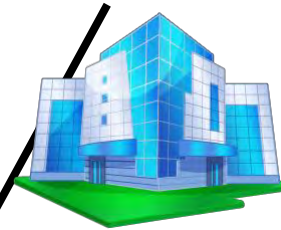
MERP: source of reports

Healthcare Professional
individual reports



On-line report

Organisation
batched reports



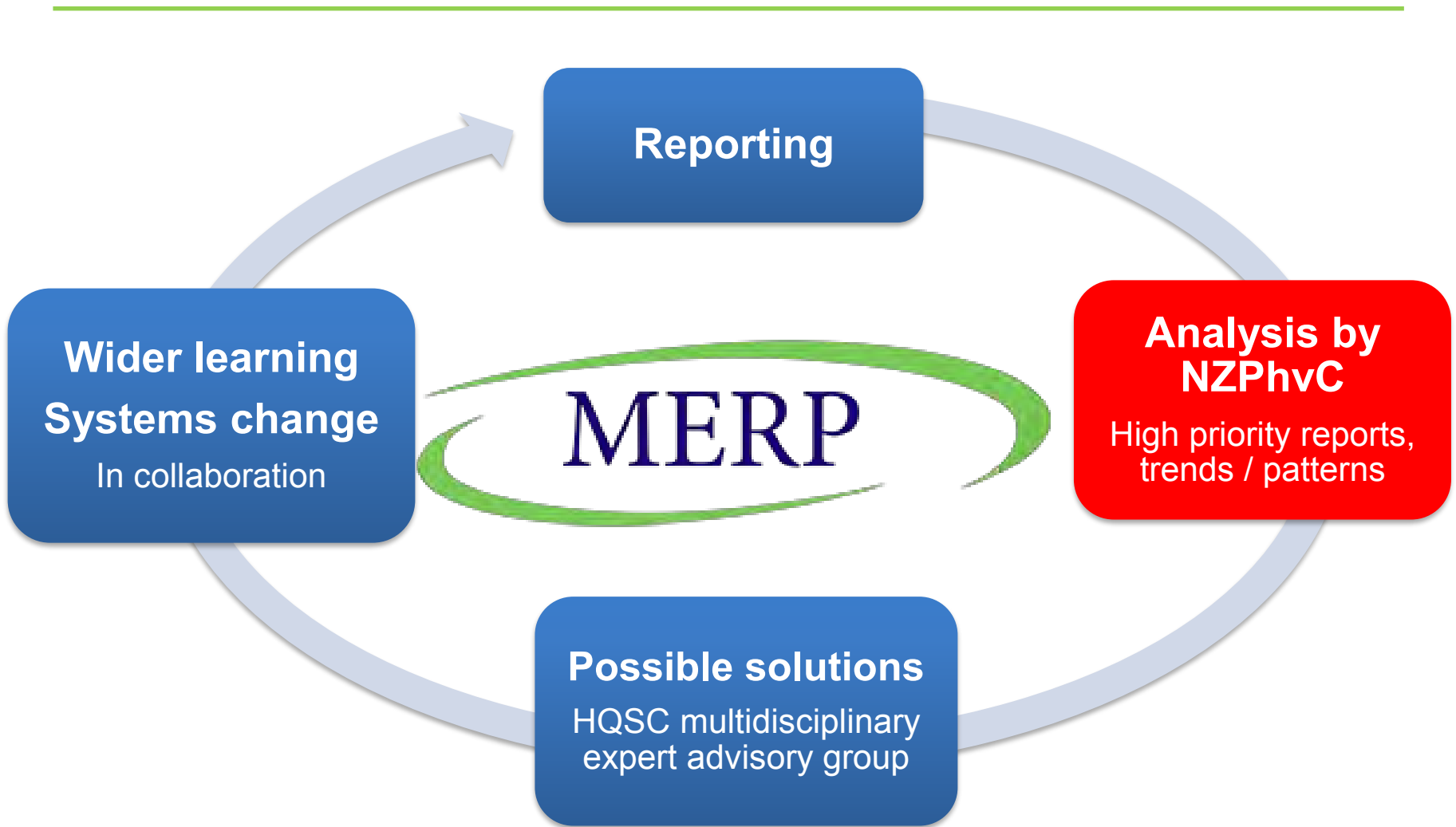
Secure upload

firewall



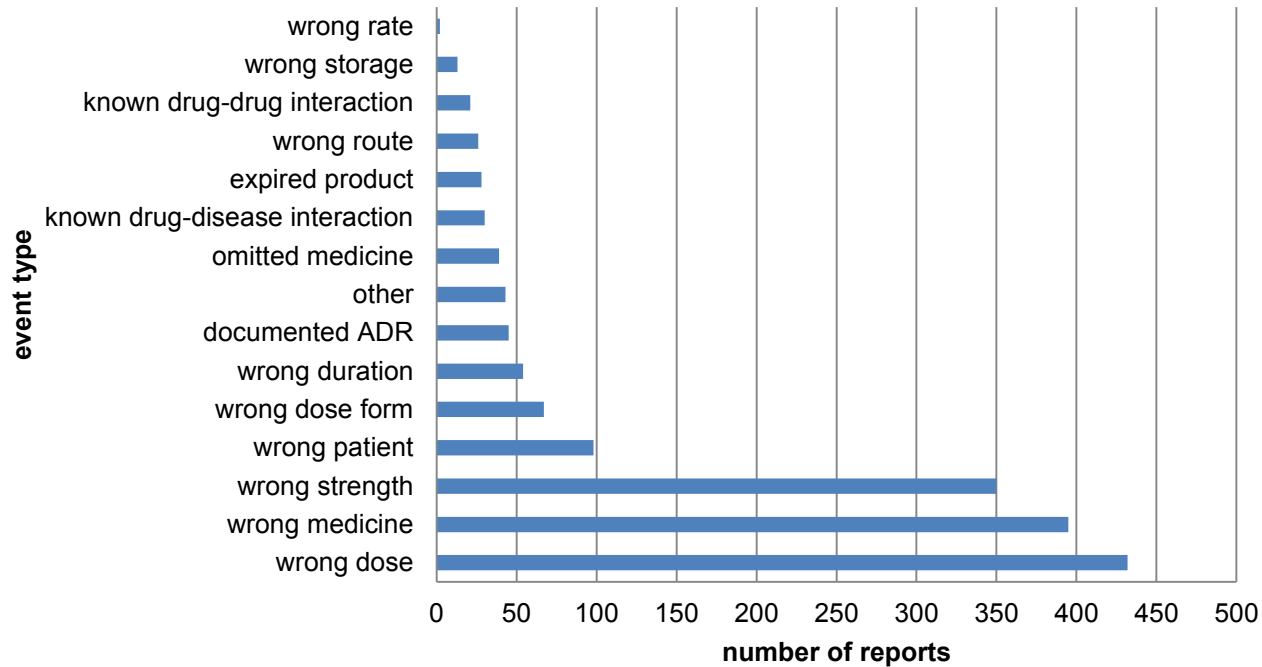
MERP

- Ambulance services
- Pharmacy Defence Assoc
- CARM, ACC
- HQSC Adverse Events Programme

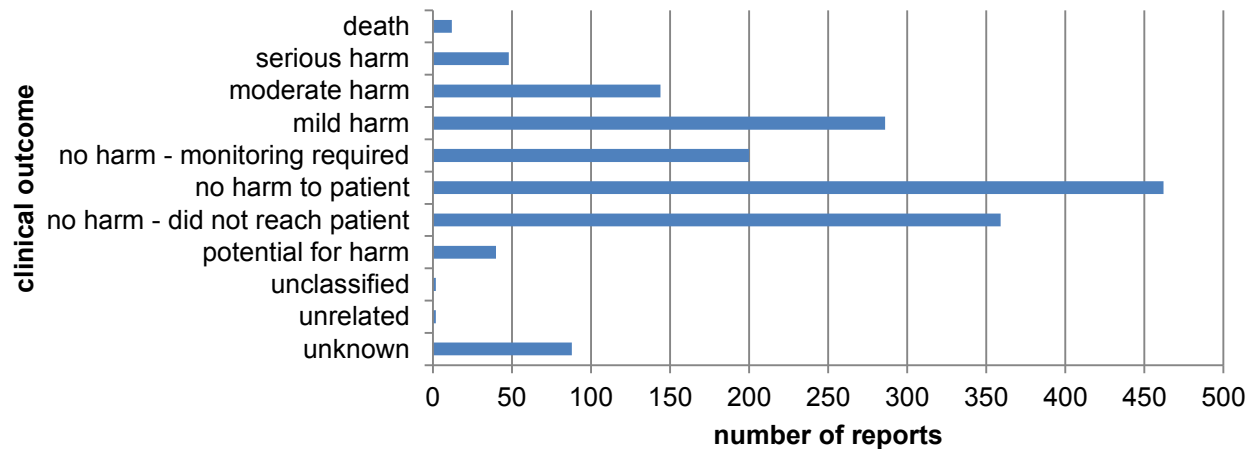


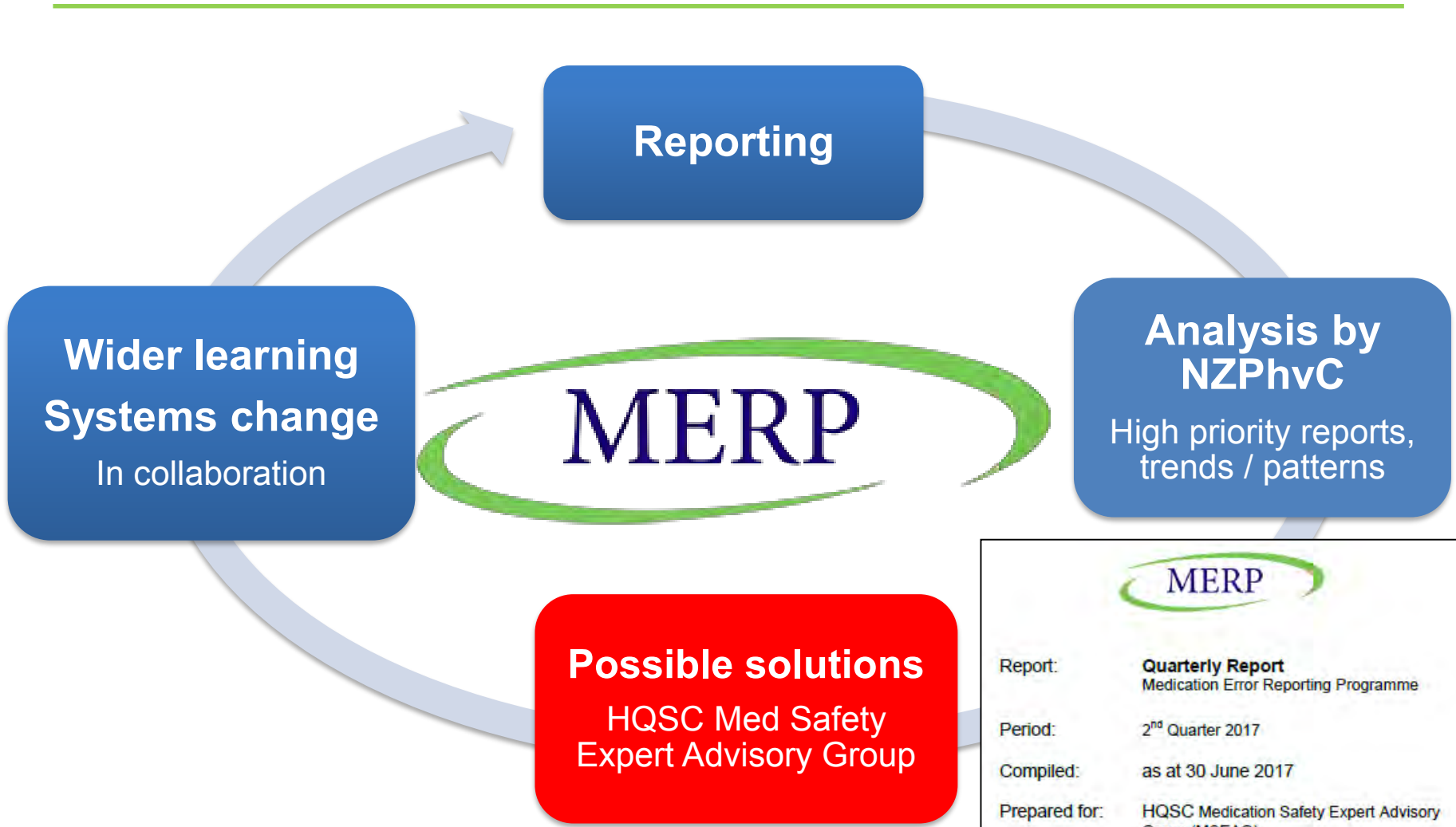
Medication Error Reporting Programme

Number of reports by event type



Number of reports by clinical outcome





Reporting

**Analysis by
NZPhvC**

High priority reports,
trends / patterns

MERP

**Wider learning
Systems change**
In collaboration

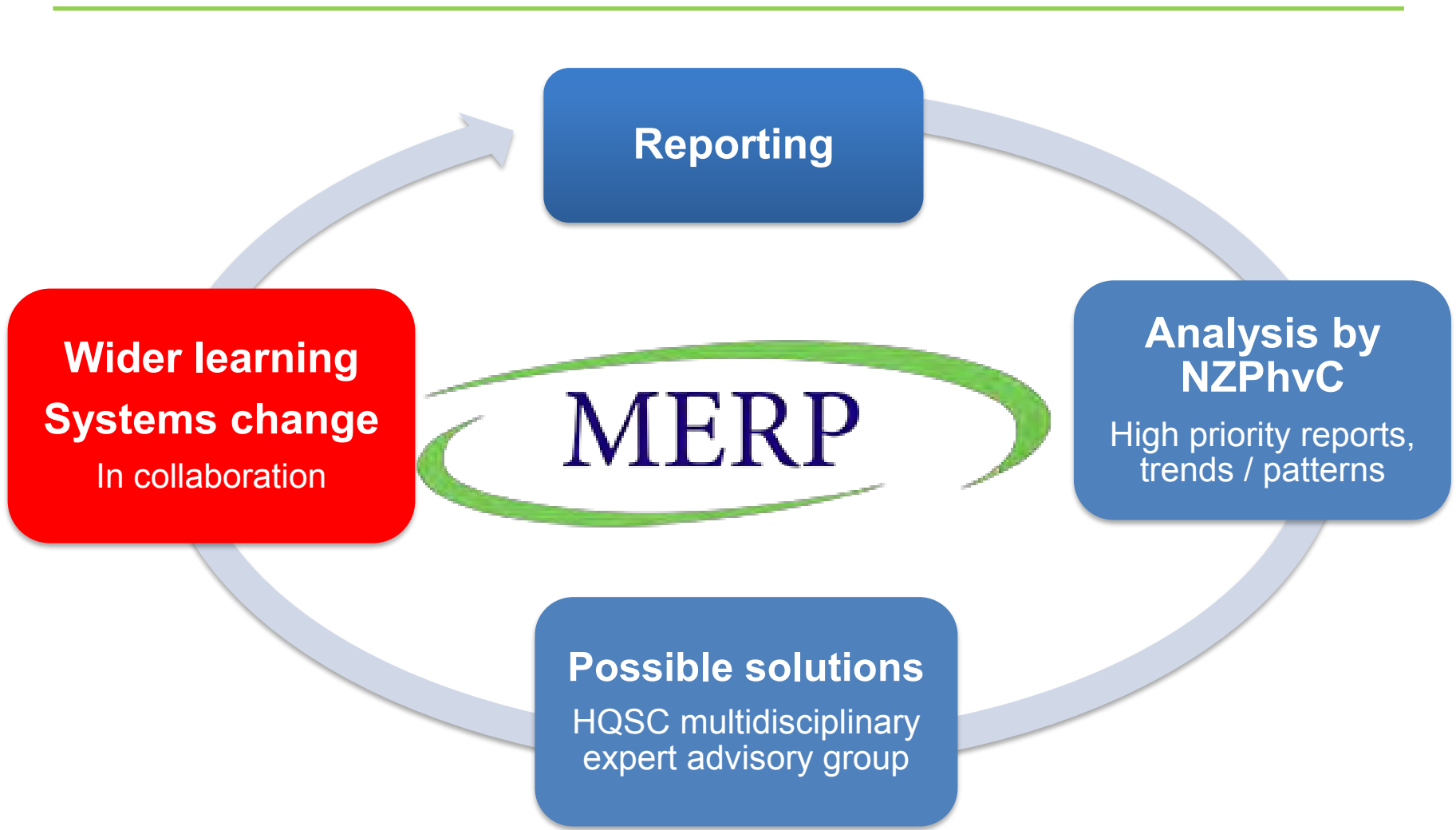
Possible solutions
HQSC Med Safety
Expert Advisory Group



Report:	Quarterly Report Medication Error Reporting Programme
Period:	2 nd Quarter 2017
Compiled:	as at 30 June 2017
Prepared for:	HQSC Medication Safety Expert Advisory Group (MSEAG)



Medication Error
Reporting Programme



Medication Error
Reporting Programme

Value to the Sector

MERP information sharing

- Medication Safety Email Network
 - connects medication safety specialists / champions from across primary and secondary care
 - timely exchange of safety issues, challenges, solutions

merpnz@otago.ac.nz

Prescriber Update
 Medication Error Reporting Programme

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Issue 17:1
 September 2017

Contents

- Oxycodone – Sometimes More Pain than Gain?
- Complementary Corner – Olive Leaf Extract
- Reminder: Interactions Resulting in Serotonin Syndrome
- Therapeutic Products Regulatory Regime
- Risks of Hydroxychloroquine
- Medicines and Hyperkalaemia
- MEDICINES MONITORING: Melatonin and Hallucinations Added
- Varicella Zoster Virus Vaccines – Medication Errors
- Miracle Mineral Solution – Buyer Beware
- Clomifene and Risk of Stroke
- Ibuprofen and Cardiovascular Risk
- MARC's Remarks: June 2015 Meeting
- Reminder: Citalopram and QT Prolongation
- Quarterly Summary of Medsafe's Early Warning System Communications

24 February 2017

Safety Alert - Caution Required with Compounded Oral Liquid Formulations

Compounding oral liquid formulations from tablets poses many potential risks that can lead to patient harm. Adverse events have been reported nationally and internationally and common themes include:

1. Calculation errors e.g. using too many tablets to give the required strength
2. Prescribing or interpreting an incorrect strength which is then dispensed without verification
3. Changing the strength that the patient/caregiver has been used to e.g. dispensing a more concentrated formulation which is then given as the previous dose volume resulting in overdose
4. Unrecognised physical instability e.g. a soluble drug visibly precipitating out of solution which is continued to be used with resulting potential for overdose
5. Incorrect administration or dosage errors by the patient/caregiver
6. Inappropriate storage or failure to shake suspensions prior to administration

Some of these events in children have been fatal. The risk and consequences of a serious event is increased with high-risk medicines such as those with a narrow therapeutic index, poor physical stability, concentrated formulations and those with potential confusion between different strengths.

Examples of high risk formulations include baclofen, flecainide, levitracetam, tramadol, thyroxine, phenobarbitone and clobazam.

Recommendations to minimise risk of adverse events

1. Be especially vigilant of the potential for adverse events with high risk medicines and use commercial preparations or therapeutic alternatives if possible to reduce compounding-related risks.
2. Use standardised batch sheets where these are available (currently available from www.pharminfotech.co.nz). Use formulas as stated with no substitutions, changes to strength or to storage conditions as any changes can affect stability.

practice level, these

- Maintaining dispensary s
- Store product use shelf stic
- Ensure robu medicine an
- Always dispe
- Encourage p sound differe questions to
- Report actu names to the about stratey so we can sf

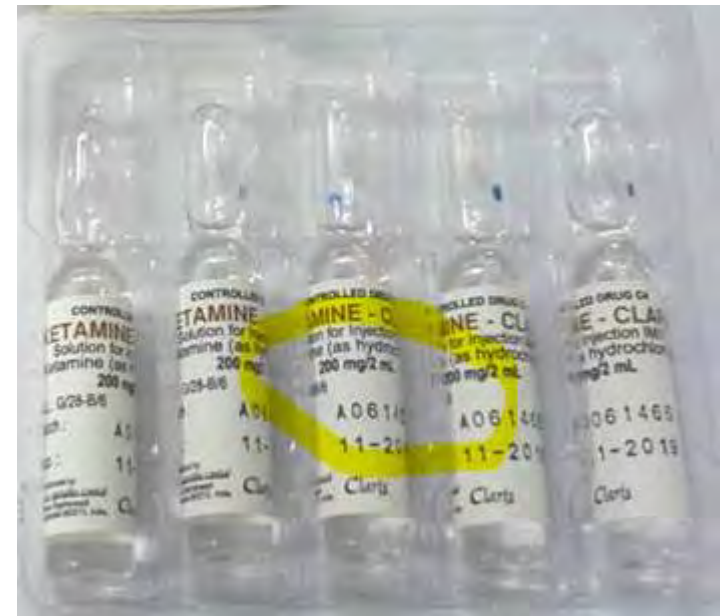


Medication Error Reporting Programme

Value to the Sector

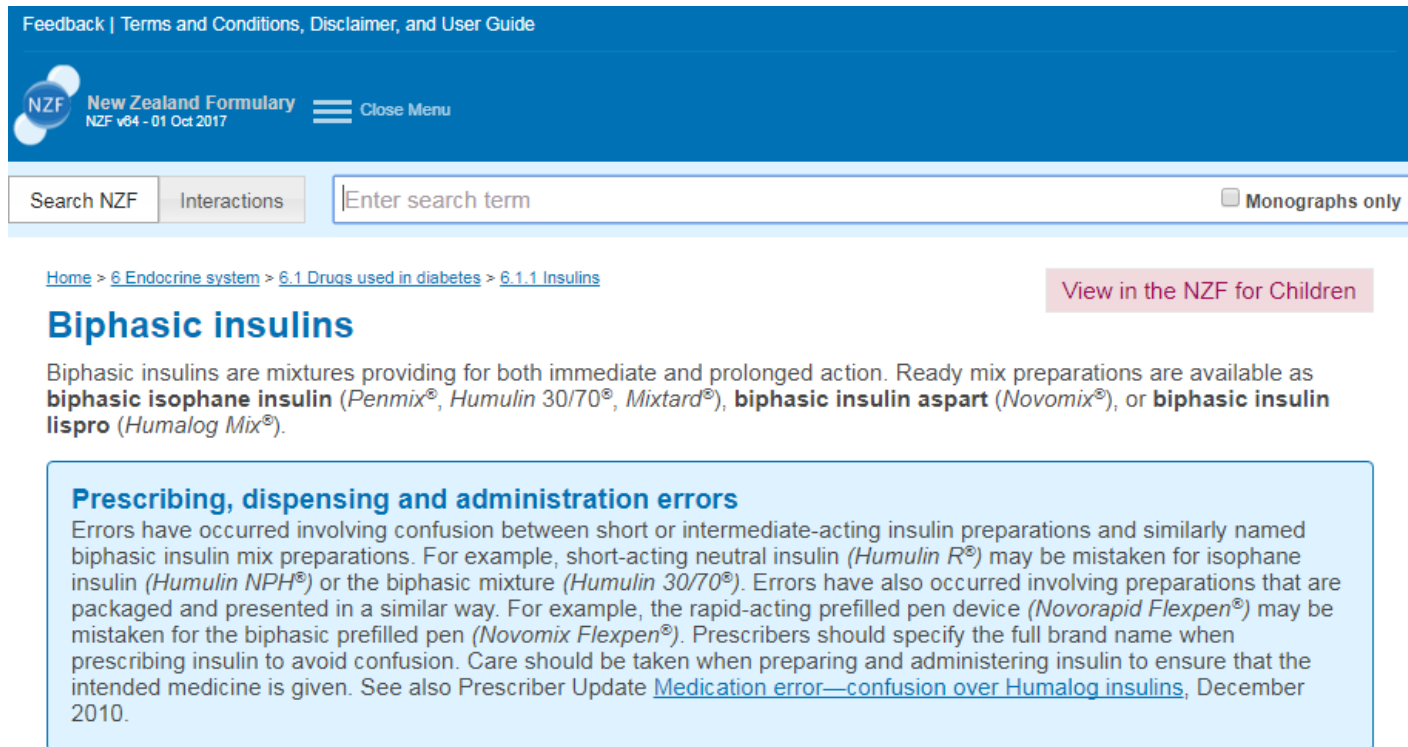
safer product packaging / presentation

- collaboration with Medsafe and Pharmaceutical Companies



Value to the Sector

- NZ Formulary



Feedback | Terms and Conditions, Disclaimer, and User Guide

NZF New Zealand Formulary NZF v64 - 01 Oct 2017 Close Menu

Search NZF Interactions Enter search term Monographs only

[Home](#) > [6 Endocrine system](#) > [6.1 Drugs used in diabetes](#) > [6.1.1 Insulins](#) [View in the NZF for Children](#)

Biphasic insulins

Biphasic insulins are mixtures providing for both immediate and prolonged action. Ready mix preparations are available as **biphasic isophane insulin** (*Penmix[®]*, *Humulin 30/70[®]*, *Mixtard[®]*), **biphasic insulin aspart** (*Novomix[®]*), or **biphasic insulin lispro** (*Humalog Mix[®]*).

Prescribing, dispensing and administration errors

Errors have occurred involving confusion between short or intermediate-acting insulin preparations and similarly named biphasic insulin mix preparations. For example, short-acting neutral insulin (*Humulin R[®]*) may be mistaken for isophane insulin (*Humulin NPH[®]*) or the biphasic mixture (*Humulin 30/70[®]*). Errors have also occurred involving preparations that are packaged and presented in a similar way. For example, the rapid-acting prefilled pen device (*Novorapid Flexpen[®]*) may be mistaken for the biphasic prefilled pen (*Novomix Flexpen[®]*). Prescribers should specify the full brand name when prescribing insulin to avoid confusion. Care should be taken when preparing and administering insulin to ensure that the intended medicine is given. See also Prescriber Update [Medication error—confusion over Humalog insulins](#), December 2010.

Value to the Sector software enhancements

- collaboration with software vendors

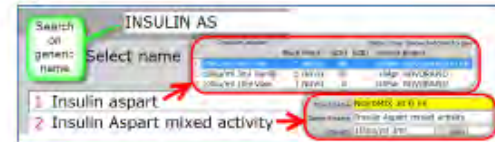
NOVOMIX 30 and NOVORAPID Flex Pens

These insulin pens have been highlighted recently in dispensing errors. If extra checks are appropriate, the pharmacy may like to consider the ideas below?

The Medicines are:

BRAND	NOVOMIX 30 FLEX	NOVORAPID FLEX
generic	Insulin Aspart mixed activity	Insulin Aspart
detail	100iu/ml 3ml PEN	100iu/ml 3ml PEN
packaging	Dark blue	Dark blue and orange

selected by generic:

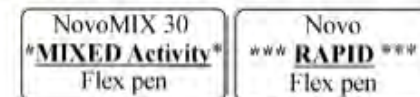


or by BRAND:



IDEAS to consider

- Create sundry labels and automatically print them when either pen is dispensed. Edit Med, go to page 3 and attach relevant sundry label.



- Maybe stick relevant label to the box/basket/shelf where they are stored.
- Perhaps use an orange highlighter on the RAPID label with to emphasise the different packaging and/or add the word ORANGE to that sundry label...

Value to the Sector

topics of concern

- **Safer compounded paediatric oral liquids**

- Multi-incident analysis of reports to the MERP provided evidence to initiate a national “Compounding Advisory Group”
- chaired by David Woods
- MERP “compounding adverse event” reports routinely shared with Group



Photograph courtesy of Dave Woods

MERP: current status



**easy to
report**



**useful
data**



**informs
national
initiatives**

- short term funding streams
 - current funding ceases 30 June 2018
- national level
 - low visibility of the MERP
- limited resource to grow the system and add greater value

0.5 FTE

**550
reports / yr**

MERP: vision for the future

- Proven effectiveness in small scale, need to actively expand to provide timely information on medication error and adverse drug events.
- Current focus is primary care – need to embed this, and get buy in from clinicians
- Allow organisations to access their own data for risk management and quality improvement
- Spread to other areas of the health sector – e.g. secondary care. (MERP interface is superior to current incident systems)
- Medication error integrated into NZ Pharmacovigilance
 - opportunity to address all harms (med error + ADRs)

Next steps

- Stakeholder meeting late November 2017
 - To explore a sustainable future for the MERP
 - Current value
 - Direction
 - enhancements
 - expansion
 - Funding / Governance models
 - partnership of multiple organisations

- Your feedback is important

merpnz@otago.ac.nz



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