

# Northern Alliance HARP

## Medication Management Service (MMS)

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"I don't think that's what the pharmacist meant when he said 'Take for two days and skip a day.'"

# **Avoiding Medication Misadventure:**

The role of a Multidisciplinary team in assisting the ageing population with complex health needs to manage their medications.

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**Acknowledgements: Ali Fithall** Bundoora Extended Care

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# Introduction

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Background

Aims

Multidisciplinary Approach

Referral Process & MRIT

Outcomes

Case Study



# Where did we come from?

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- Northern Alliance Hospital Admission Risk Program (HARP) Complex Needs Stream
- Formerly known as Community Client Oriented Medication Project (CCOMS)
- Funded by Department Of Health (DoH)

Joint initiative between:

- Northern Health
- Royal District Nursing Service: Diamond Valley, Heidelberg & Moreland Centres

# Where did we come from?

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The Program commenced in 2004 and expanded on previous projects undertaken within the Northern Region of Melbourne:

1. National Hospital Demonstration Project Stage 4 (2003)
2. Safety and Innovation in Practice Mark II (2004)
3. Darebin and Moreland Misuse of Pharmaceuticals Project (2002-2003)

# The Facts

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- Research found that in the ageing population (>65) medication misadventure accounted for:
  - 15 – 22% of ED presentations
  - 12 – 14% of admissions to hospital(Roughead et al 1998; Cunningham et al 1997)
- This equates to:
  - 1860 emergency presentations
  - 466 NH admissions each year
- 67% of adverse effects from medications were predictable or preventable (Leipzig, 1999)

# Aims of MMS

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To reduce the number of ED presentations and hospital admissions of older community based clients related to medication misadventure by:

1. Identifying at risk clients using a Medication Risk Identification Tool (MRIT)
2. Providing a time appropriate medication assessment by a multi disciplinary team in the community

# Aims

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3. Medication self management by clients and carers through information and education
4. Developing a client oriented medication management care plan
5. Enhancing and strengthening the links between clients, GPs and Community Pharmacists
6. Care Coordination for referral for ongoing monitoring and management

# The Multi Disciplinary Approach



**General Practitioner**



**Client & Family**



**Community Pharmacist**

**OUTREACH PHARMACIST**

**District Nurse**

**Aged Care**

**ED PHARMACIST**

APATT, Physio, Geriatrician, OT, Diabetes Educator, ACAS etc.



**HARP STAFF**

**Medication Management Service Team**

# The Referral Process



ACUTE CARE



SUB ACUTE CARE



COMMUNITY



# Medication Risk Identification Tool (MRIT)

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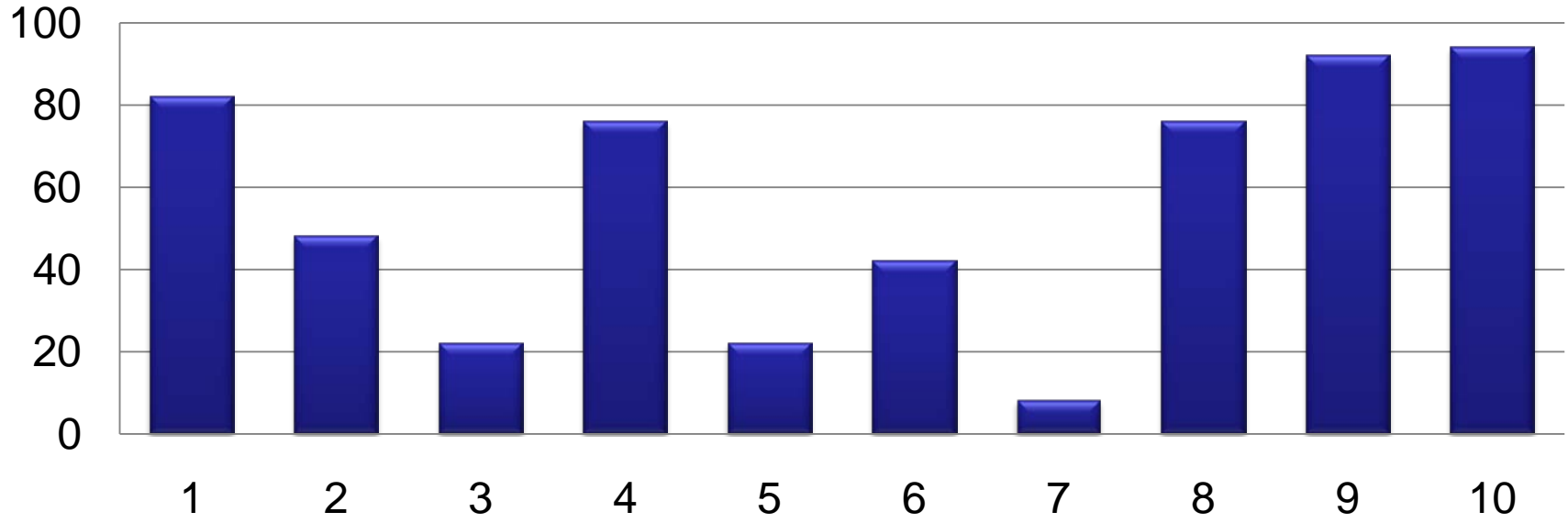
- Initial tool was the Satisfaction with Information about Medicines Scale **SIMS** (Home, Hankins & Jenkins 2001)
- Developed to MRIT (2007), used as a risk/referral tool only
- Client centred approach
- Multi disciplinary team with limited knowledge of medications able to complete in hospital and community settings.
- Identification of medication management issues

# Medication Risk Identification Tool (MRIT)

Information relating to referral	Yes	No
Have you had an admission to hospital in the last 12 months	<input type="checkbox"/>	<input type="checkbox"/>
Do you forget to take your medication or take them differently than prescribed	<input type="checkbox"/>	<input type="checkbox"/>
Have you had an admission to hospital or presentation to the emergency department in the past 28 days	<input type="checkbox"/>	<input type="checkbox"/>
Do you see:	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> More than one pharmacist		
<input type="checkbox"/> Recall any previous problems with medications or alternatives	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Have difficulty getting a regular supply of your medicines	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Have difficulties with medication packaging	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Have difficulty swallowing medications	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Think some of the medications that you take could work better	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Take 5 or more different medications or alternative medications per day	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> One or more General Practitioner/Specialist	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Does this client require an urgent assessment	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> Is this client a current inpatient	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> When will client be discharged (approx date) .....		

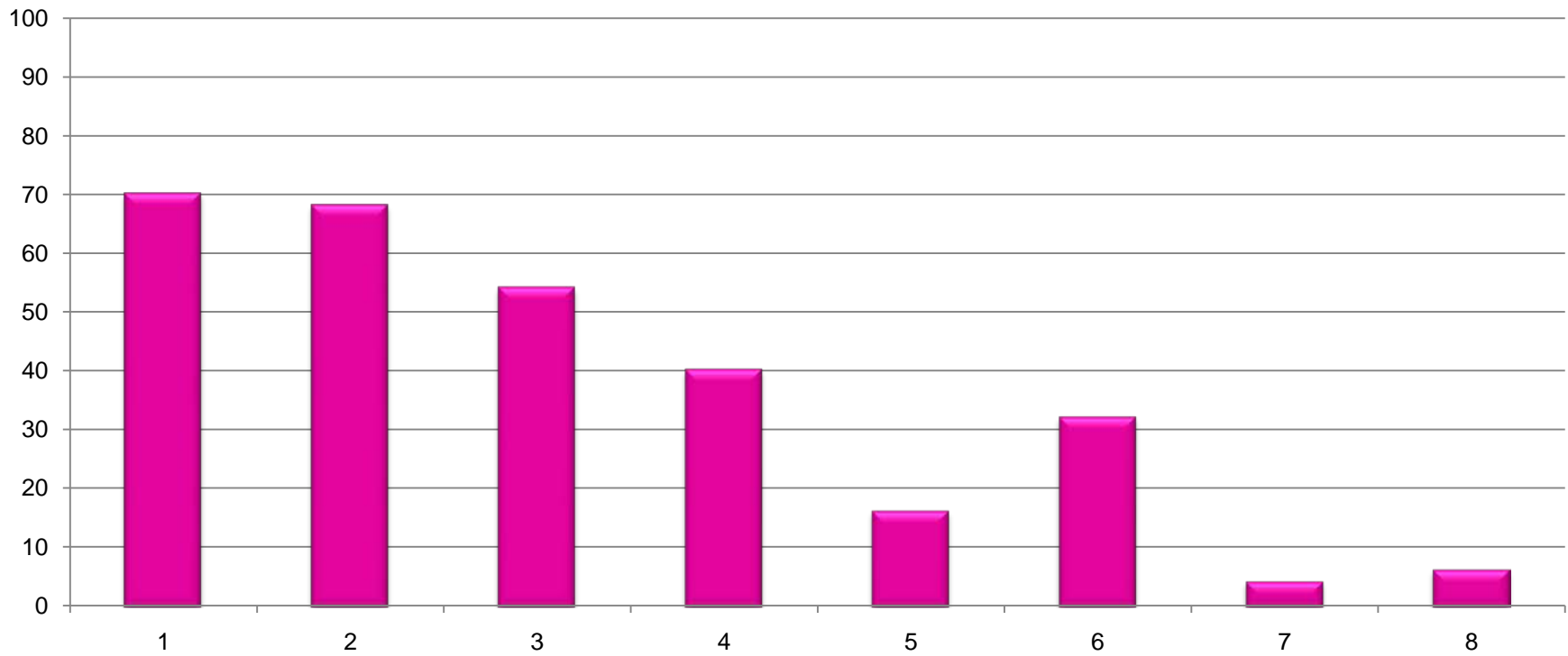
# Client Risk Screen (N = 50)

## Referral-Issues Identified



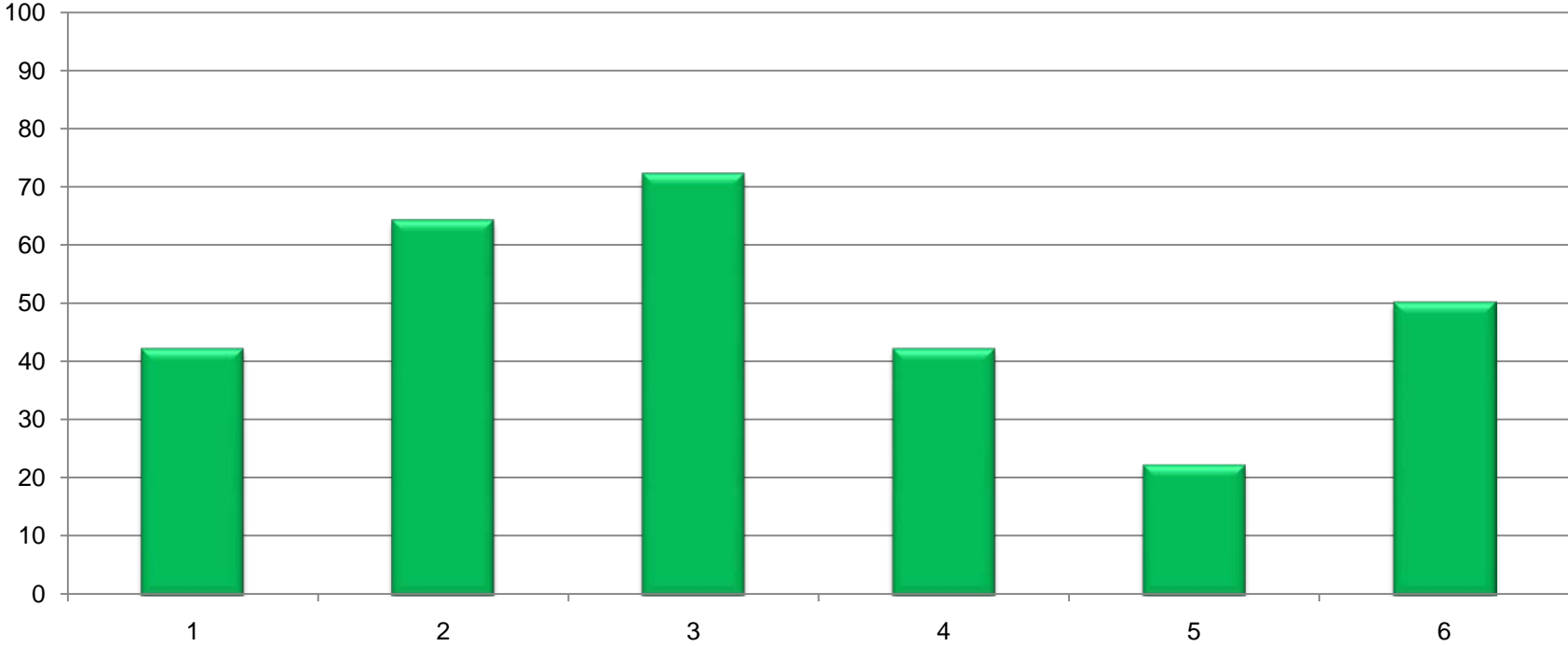
<b>1</b>	Client forgets medications or takes them differently than prescribed	<b>6</b>	Difficulties with packaging
<b>2</b>	Admission within last 28 days	<b>7</b>	Difficulties with swallowing meds.
<b>3</b>	See more then one pharmacist	<b>8</b>	Thinks some meds could work better
<b>4</b>	Previous problems with medicines	<b>9</b>	Takes 5 or more medications
<b>5</b>	Difficulty getting a regular supply	<b>10</b>	See more than one GP/specialist

# Issues Identified by MMS Staff



- |          |                                |          |                                    |
|----------|--------------------------------|----------|------------------------------------|
| <b>1</b> | Compliance                     | <b>5</b> | Efficacy Treatment                 |
| <b>2</b> | Self-Management of Medications | <b>6</b> | Pain                               |
| <b>3</b> | Understanding of Medications   | <b>7</b> | Carer Unable to Manage Medications |
| <b>4</b> | Requires Ongoing Monitoring    | <b>8</b> | Cost of Medications                |

# Interventions by MMS



<b>1</b>	<b>Recommended change in medications</b>	<b>4</b>	<b>Intervention re inappropriate use of medications</b>
<b>2</b>	<b>Recommended Dose Administration Aid</b>	<b>5</b>	<b>Disposal of Medications</b>
<b>3</b>	<b>Self-management Education</b>	<b>6</b>	<b>Recommendation for regular monitoring</b>

# Medication Management Service Resource Kit



# Evaluation MMS

- HARP evaluation report Jan 2009: Noted that the Outreach MMS has significantly decreased ED presentation rates (1:3 or 30% reduction)

Emergency Department Presentations 12 months before/after enrolment

		Pre HARP ED	Post HARP ED	ED change (post-pre)	
	N(%)	Mean (SD)	Mean (SD)	Mean (SD)	P
Outreach MMS	30(2.66)	3.37 (2.98)	2.30 (1.62)	↓1.07 (3.42)	0.099

# Case Study

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Mr M, 65 year old Turkish man living with his wife at home

## Medical history:

Type 2 Diabetes Mellitus

Anaemia

IHD: CABGs 2007

Increased Cholesterol

Chronic Renal Failure

# Case Study

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- Presented via ambulance to ED with chest pain
- Diagnosed & admitted to hospital with:  
NSTEMI  
AF
- Reviewed by MMS Pharmacist in ED
- Followed up by Ward Pharmacist
  - Concern re ability to read medication packaging
  - Illiterate in Turkish and English
  - Takes medications by recognition
  - Pt continuing to take ceased meds
  - 11 medications, av. frequency TDS

# Medication Risks Identified at Referral

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- Client has had a hospitalisation within last 12 months
- Client forgets to take medication or takes them differently than prescribed
- Client thinks some of the medications could work better
- Client takes more than 5 medications in one day
- Client sees more than one Specialist/GP
- Referral identified as “urgent” by referral source

# Care Plan Initial

<b>Issue</b>	<b>Action</b>
<p>Non compliance</p> <ul style="list-style-type: none"><li>• Warfarin : taking Warfarin incorrectly &amp; omitting doses</li><li>• Beta Blockers</li><li>• Diuretics</li><li>• Midday meds</li></ul>	<ul style="list-style-type: none"><li>• Utilised Turkish interpreter &amp; information sheet on warfarin to educate client and wife</li><li>• Educated re INR monitoring and procedure for obtaining dose, making up dose</li><li>• Consulted with GP re warfarin &amp; INR amount &amp; frequency of meds</li><li>• Diuretic therapy changed to daily</li><li>• Further cardiac review/investigations as Outpatient</li></ul>
<p>Diabetes Management:</p> <ul style="list-style-type: none"><li>• Insulin administration</li></ul>	<ul style="list-style-type: none"><li>• Client administering insulin adhoc</li><li>• Administering incorrect dose of insulin</li><li>• Referred to HARP Diabetes educator for review</li><li>• GP notified for Review asap</li><li>• HbA1c 9.8% 27/12/2010 BGL's 20-22mmols</li></ul>

# Care Plan Initial

<b>Issue</b>	<b>Action</b>
Introduction of Dosette for medication management	<ul style="list-style-type: none"><li>• Dosette introduced after consultation with GP and Community Pharmacy</li><li>• Pharmacy to deliver weekly</li></ul>
Disposal of sharps: Client placing used needles & lancets in rubbish bin	<ul style="list-style-type: none"><li>• Organised for wife to collect sharps container from local council</li><li>• Educated re disposal of sharps</li></ul>
Timing of Medication Administration	<ul style="list-style-type: none"><li>• Educated client and wife (spacing of meds)</li><li>• Frequency reviewed from TDS to BD</li></ul>
Out of date/expired medications	<ul style="list-style-type: none"><li>• Educated re disposal of meds</li><li>• Returned to Pharmacy for disposal</li></ul>

# Care Plan Review

<b>Issue</b>	<b>Reviewed 1 week &amp; 1 month</b>
Non compliance <ul style="list-style-type: none"><li>• Warfarin : taking Warfarin incorrectly omitting doses</li><li>• Beta Blockers</li><li>• Diuretics</li></ul>	<ul style="list-style-type: none"><li>• Compliant with warfarin</li><li>• Attending GP for INR's and reviews</li><li>• Able to identify and dispense appropriate dose</li><li>• Client now compliant with beta blockers and diuretics</li></ul>
Diabetes Management: <ul style="list-style-type: none"><li>• Insulin administration</li></ul>	<ul style="list-style-type: none"><li>• GP reviewing BGL's/insulin dose</li><li>• HARP Diabetes Educator continuing to monitor/educate client</li></ul>
Introduction of Dosette for medication management	<ul style="list-style-type: none"><li>• Client cancelled dosette from Pharmacy: stated he could attend himself</li><li>• Appears to be filling correctly</li></ul>
Timing of Medication Adm	<ul style="list-style-type: none"><li>• Further education attended to client and wife</li><li>• Client managing BD meds</li></ul>
Out of date/expired meds	<ul style="list-style-type: none"><li>• Achieved</li></ul>
Disposal of sharps	<ul style="list-style-type: none"><li>• Achieved</li></ul>

# Conclusion MMS

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The key to the success of MMS is twofold:

- Comprehensive assessment of medication-management issues and targeted interventions
- Multi-disciplinary approach – including the relationship developed with GPs and Community Pharmacist
- Mr. M is currently managing his medications and has had no further hospital admissions to date.