



Improving safety through continuity in medication management – the South Australian experience

Kaye Barratt

Senior Project Officer, Pharmaceutical Reforms,
Pharmaceutical Services and Strategy, SA Health

Naomi Burgess

Pharmacy Consultant, Medication Safety and Pharmaceutical Reforms, SA Health,
Deputy Director/Senior lecturer, Royal Adelaide Hospital/University of SA



**Government
of South Australia**

SA Health



Outline

- > Continuity in medication management
- > South Australian approach
- > Key performance indicators
- > Results
- > Next steps



Continuity in medication management

Continuity of care

‘The co-ordination of care received by a patient over time and across multiple health care providers’



Continuity in medication management

- > Continuity of care issues - recognised contributors to adverse drug events
- > High risk of error at transition between care settings
 - Admission to hospital
 - Discharge from hospital to home or residential care facility
 - Transfer within a hospital – eg from ICU to a ward, ward to ward, acute to rehab
- > Continuity of medication management is a key component of continuity of care



Continuity in medication management

Hospital studies show:

> On admission¹

- Half the patients had at least one discrepancy in medication history
- Omission of a regular medication – 46%
- 40% of discrepancies had potential to cause moderate to severe clinical deterioration

> On discharge

- Unintended discrepancies in 40% discharge regimens²
- Re-admission 2.3 times more likely if one or more medicine omitted³

1 Cornish P et al. Unintended medication discrepancies at the time of hospital admission. Arch Intern Med 2005;165:424-9

2 Vira T et al. Reconcilable differences: correcting medication errors at hospital admission and discharge. Qual Saf Health Care 2006;15:122-6

3 Stowasser D et al. A randomised controlled trial of medication liaison services – patient outcomes. JPPR 2002;32:133-40



Continuity in medication management

Australian Pharmaceutical Advisory Council:

- > 1998 – APAC guidelines to achieve QUM across the continuum of care
- > 1999 – National Medicines Policy
 - Timely, cost effective access to medicines
 - Quality, safety and efficacy standards
 - **Quality use of medicines (QUM)**
 - Responsible and viable medicines industry
- > 2005 – APAC guiding principles



Continuity in medication management

APAC guiding principles:

- > Provide guidance and strategies for preventing medication errors when transferring across care settings
- > Pr 1-3 – organisational requirements
 - leadership, responsibility, accountability
- > Pr 4-9 – specific patient care activities
 - eg medication history, review, reconciliation
- > Pr 10 – quality assurance

APAC guiding principles and continuity in medication management

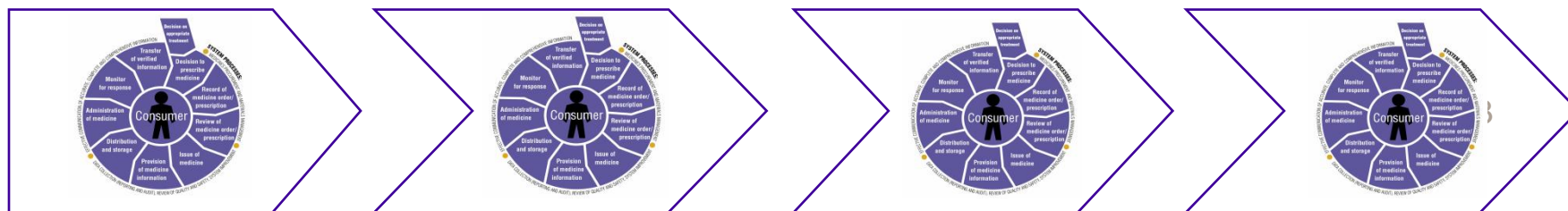
1. Leadership
2. Responsibility
3. Accountability

9. Communicating medicines information

10. Evaluation

Admission to next episode

Discharge to next episode



Current episode of care

During episode

4. Accurate medication history
5. Medication review & reconciliation
6. Medication action plan
7. Medicines information to consumers
8. Ongoing access to medicines



South Australian approach

Pharmaceutical reforms:

- > Two equal components
 - PBS
 - APAC
- > Review of clinical pharmacist levels
- > Interstate comparisons
 - SA average 1 FTE/90 beds
 - Others 1 FTE/30-40 beds

South Australian approach

Clinical pharmacist review:

	FTE	Av. Bed / FTE
Current	30.4	89.6
Proposed ¹	95.5	35.7
Cover ²	11.0	-
Total new FTE	76.1	

¹ Includes 7 day ED cover
Mix of base grade : specialist 60:40

² Based on 6 weeks leave p.a.



South Australian approach

- > Business case approved
 - Staged recruitment from Jan 2007
 - Hospital trainee positions doubled
- > Timeframe for implementation of each principle established
 - Milestones agreed by Australian Government and SA Health
- > KPIs developed
- > KPIs incorporated into Health Service Level Performance Agreements

Key performance indicators

- > 21 indicators¹
 - 12 clinical, 9 policy
 - Detailed definitions and measurement
 - Aligned with existing indicator sets - eg NSWTAG
- > Baseline data collection
 - Existing data – eg NIMC audits
 - Targeted reviews
- > Scope
 - All admitted patients



¹ available from www.safetyandquality.sa.gov.au/pharmreforms

Key performance indicators

1. Leadership

1.1 There is a policy, procedure or guideline to define the roles of management, doctors, pharmacists, nurses, other health care professionals and consumers in all steps of the medication management cycle.

2. Responsibility

2.1 There is a policy, procedure or guideline which outlines the responsibilities of health care professionals in all aspects of medication management, with delegation where appropriate.

2.2 There is written information provided to patients and/or their carers outlining their responsibilities in medication management

3. Accountability

3.1 There is a policy to include accountability for medication management in the job and person specifications of health care professionals



Results

> Policy indicators

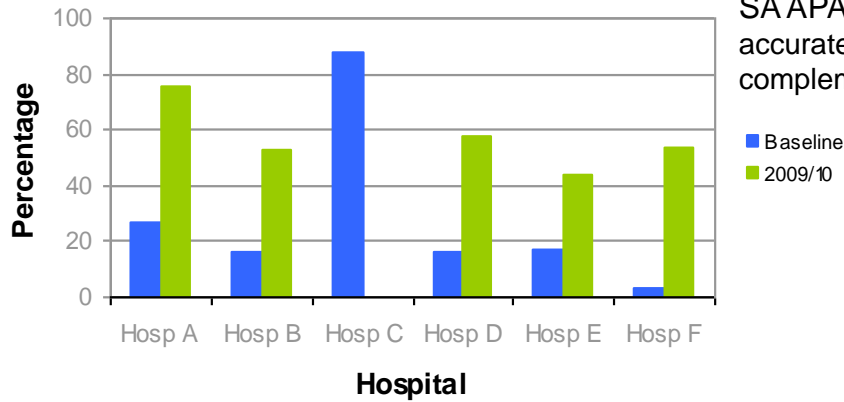
- All hospitals – Nov 2009
- Overarching medication management policies
- Procedures and guidelines for
 - pharmacists
 - nurses/midwives
 - medical officers/other prescribers
- No results

> Activity indicators

- Hospitals participating in the pharmaceutical reforms – March 2010

Results – principle four

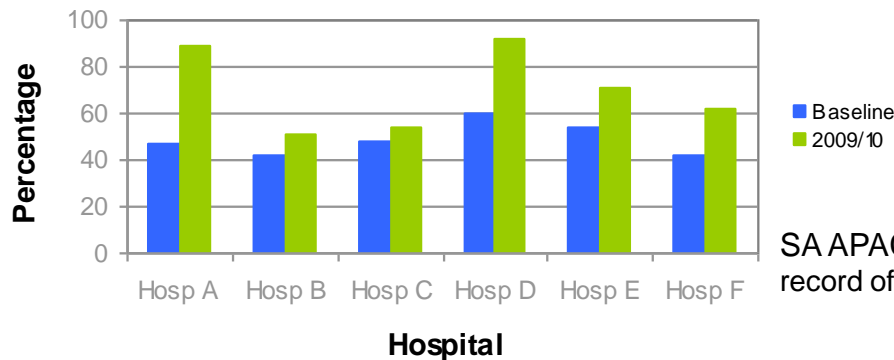
4.2 Complete & Accurate Med History within 24 hrs



SA APAC 4.2: Percentage of inpatients that has a complete and accurate list of their current medications (including OTC and complementary) documented and reconciled within a day of admission



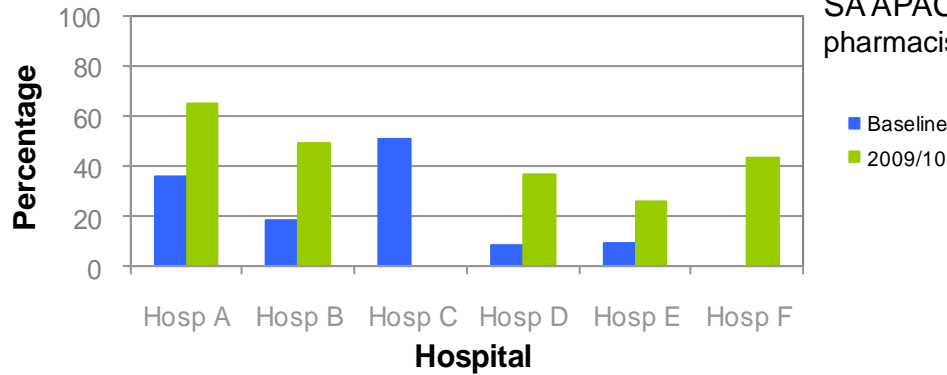
4.3 ADR Documented within 24 hours



SA APAC 4.3: Percentage of inpatients that has a correctly completed record of prior ADR and allergy documented within a day of admission

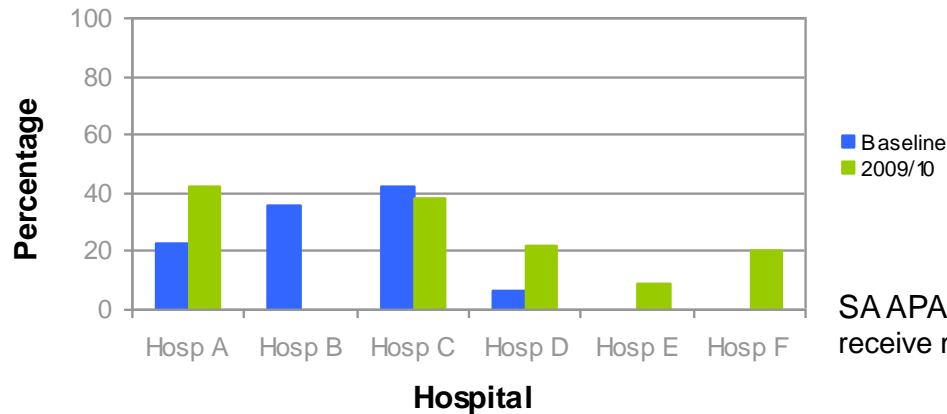
Results – principle five

5.2 Pharmacist Review within 24 hours



SA APAC 5.2: The percentage of patients reviewed by a pharmacist within 24 hours of admission

5.3 Daily clinical review per patient

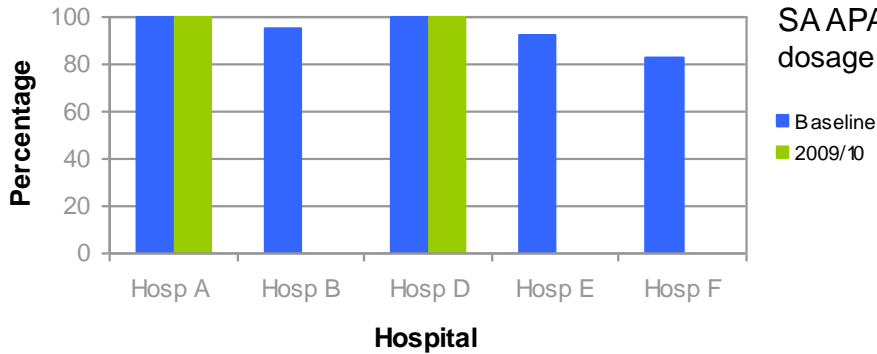


SA APAC 5.3: The percentage of admitted days that patients receive medication review by a pharmacist



Results – principle five

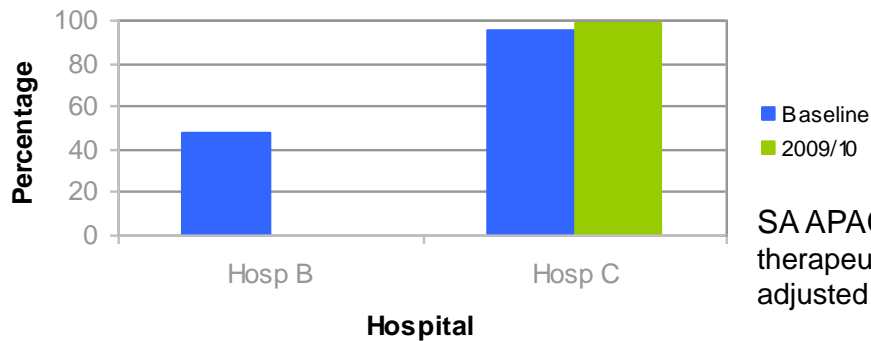
5.4 INR >4 - dose reviewed



SA APAC 5.4: Percentage of patients with INR result >4.0 whose dosage has been adjusted or reviewed prior to next warfarin dose



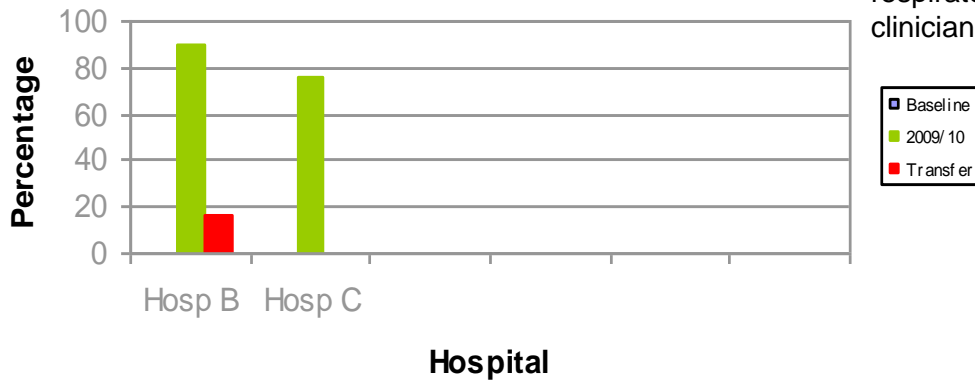
5.5 Aminoglycoside Review



SA APAC 5.5: The percentage of patients with a toxic or sub-therapeutic aminoglycoside concentration whose dosage has been adjusted or reviewed prior to the next aminoglycoside dose

Results – principle six

6.2 Medication Action Plan



SAAPAC 6.2: The percentage of patients prescribed salbutamol on discharge that are given a written action plan for acute exacerbations of respiratory disease and a copy is communicated to the primary care clinician



Asthma Action Plan for Children and Young People

Date: 8 February, 2010
Prepared by: Medical Officer
Contact: 1111
Notes:

PATIENT LABEL
UR: 123456
Surname: John
Given Names: Citizen
Birth Date: 10 Sep 2000

When Well

Reliever
Take only when necessary for relief of wheeze or cough.
2 puffs Salbutamol (Ventolin, Asmol, Airomir or Epaq) (blue/grey)

First preventer
Rixotide 50mcg puffer (orange)
Use 2 puffs 2 times per day

Second preventer
SINGULAR[®] - mifepridolast
5 mg
1 tablet once per day

Before exercise
Take Salbutamol (Ventolin, Asmol, Airomir or Epaq) (blue/grey) - 2 puffs 10-15 minutes before exercise.

When Not Well

Reliever
Salbutamol (Ventolin, Asmol, Airomir or Epaq) (blue/grey)
Use up to 12 puffs every 3-6 hours as required

Continue normal treatment.

If Symptoms Get Worse - THIS IS AN ACUTE ATTACK
Continue any preventer medications you usually take.

Reliever
Take 12 puffs of Salbutamol (Ventolin, Asmol, Airomir or Epaq) (blue/grey) every 2-4 hours as needed.

Prednisolone
If this is a more severe attack, or the symptoms are not getting better after about 6 hours with regular use of your reliever, take Prednisolone 30mg (6m) (brown bottle with red logo) immediately then once each morning for 3-5 days.

If you need your reliever more than every 3 hours seek medical attention.

EMERGENCY CARE
If you/your child's symptoms are getting worse despite regular reliever medication:

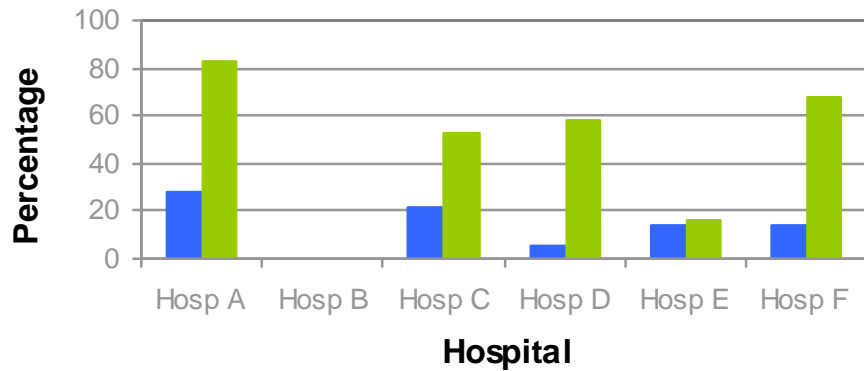
CALL AN AMBULANCE - DIAL 000
Give Salbutamol (Ventolin/Asmol/Airomir/Epaa) continuously while waiting for ambulance.

This Asthma Action Plan is provided as a service to assist medical practitioners and families. However use of this Action Plan is at your sole risk. Children, Youth and Women's Health Service does not guarantee that the information is correct. You must discuss your/your child's medical treatment and the information on this form with the doctor who completed it and any other relevant medical practitioners involved in care. No liability is accepted.

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Results – principle seven

7.2 Appropriate discharge counselling



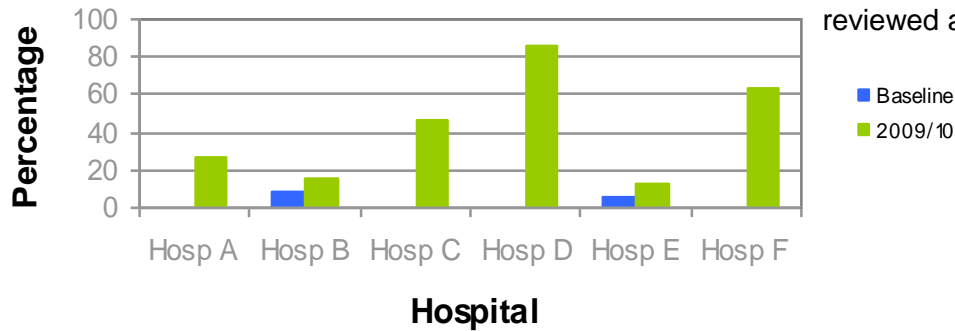
SA APAC 7.2: Percentage of hospital inpatients that received appropriate verbal counselling and written information about their medicines prior to discharge

■ Baseline
■ 2009/10



Results – principle eight

8.2 Discharge Prescription Review & Reconciliation



SA APAC 8.2: The percentage of discharge prescriptions reviewed and reconciled by a pharmacist prior to dispensing



10054451

Patient Identification
UR Number: ROME, RICK
Name: 11/05/1969 **Sex:** Male
DoB: UNKNOWN
Address: Keysborough Un 5173
Weight:
Admit Date: 28/11/2008
Discharge Date:

Ward A Clinical Unit PSYCHIATRIC

Medicare number: 511944535413 Expiry Date: Pharmaceutical benefits entitlement or DVA number: Expiry Date:

Safety Net entitlement card holder Concessional or dependent, RPIB beneficiary or Safety Net concession card holder Chemotherapy Pharmaceutical Access Program PBS RPBS

Drug Name and Form	Strength	Dose, Route and Frequency	Qty	Duration	Rpts (OP only)	Supply Y/N	Approval number if required
azithromycin tablet	500mg	500mg, Oral, Daily	2	5 Days		Y	
enoxaparin injection	60mg	60mg, Sub-Cutaneous, BD	4	2 Days		Y	
perindopril tablet	10mg	10mg, Oral, mane	30	Longterm		N	
simvastatin tablet	20mg	20mg, Oral, nocte	30	Longterm		N	
clotrimazole lotion	1%	To PEG site, Topical, BD	20ml x 2	2 Weeks		Y	
metoprolamide tablet	10mg	10mg, Oral, tds	12	4 Days		Y	
thiamine tablet	100mg	100mg, Oral, daily	100	Longterm		Y	
amoxycillin/clavulanic acid suspension	400mg/57mg/2ml	10ml, Oral, BD	60mix	10 Days		Y	
Gabapam tablet	5mg	5mg, Oral, nocte PRN	50	Longterm		N	
ranitidine tablet	150mg	150mg, Oral, bd	60	Longterm		N	

Drug Hypersensitivities:

Authority prescription applications 24 hour service:
 PBS 1800 888 333 RPBS 1800 552

DO NOT LEAVE BLANK

Prescriber number: 9671234 **Prescriber's name:** McCarthy, Chris
Pager number: 6181 8182

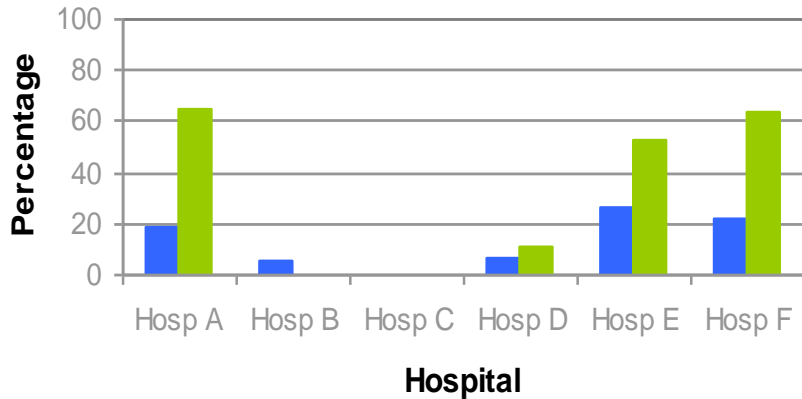
Signature: **Date:**

I certify that I have received this medication and the information relating to any entitlement to free or concessional pharmaceutical benefits is not false or misleading

 Date of supply Patient's or agent's signature Agent's address

Results – principle nine

9.2 Accurate discharge summaries



SAAPAC 9.2: The percentage of discharge summaries that document an accurate medication list and the reasons for all medication therapy changes from medications taken prior to admission

■ Baseline
■ 2009/10



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PATIENT IDENTIFICATION
MRN: 000000-HOSP Sex: Female
Name: PATIENT, MARY
DOB: 10/11/1931 Age: 77 y
Address: 1 ANY DR NORTH ADELAIDE SA 5006

SEPARATION SUMMARY

Admission Date: 03/08/2009
Separation Date: 04/08/2009
Dest. on Separation: Home
Date Time Sent: 05/08/2009 08:45
Abendina Doctor/Consultant: Peter Doctor

Management Plan

Discharge medications:

Status	Name	Details	Duration	Reason for Changes
New	Pantoprazole	40mg, oral, daily	Long Term	
Active	Aspirin	100mg, oral, daily	Long Term	
Active	Metformin	1000mg, oral, bid	Long Term	
Active	Amisulpride	20mg, oral, nocte	Long Term	
Active	Frustramide	60mg, oral, mane	Long Term	
Active	Metoprolol	50mg, oral, bid	Long Term	
Active	Simvastatin	40mg, oral, daily	Long Term	
Active	Betamethasone valerate cream 0.02%	Affected areas, topical, PRN	Long Term	
Active	Clotrimazole cream	Affected areas, topical, PRN	Long Term	
Active	Paracetamol	665mg, oral, PRN	Long Term	
Active	Prochlorperazine	5mg, oral, PRN	Long Term	
Active	Lorazepam	2.5mg/24 microg, oral, PRN	Long Term	

Follow Up Management Plan: Regular PPI use
GP follow up as needed please. Thankyou for her ongoing care.

Services on discharge: None

Future Hospital Appointments:

Date/Time	IP/OPD	Hospital	Department	Clinician
20/10/2009 08:45	Outpatient Enc	Hospital	Ophthalmic Clinic	George Doctor
13/05/2010	Outpatient Enc	Hospital	Diabetic Clinic	Harry Doctor

Other Appointments: None

Hospital Details

Clinical Unit: CARDIOLOGY Hospital Phone No: 08 0000 0000
Primary Contact: Cardiology Intern Phone/Fax: 08 0000 0000/ 1111
Consultant: Peter Doctor
Other Contact: GP Liaison on (08) 0000 0000 pager 2222 to obtain further information or provide feedback

Summary details

Distribution History:

Date	Status	Sender	Recipient	Location	Method
05/08/2009 08:45	FINAL	Dr Intern	Dr or Practitioner	Town Medical Services - TOWN Ph: 08 1111 1111	Fax
05/08/2009 08:45	FINAL	Dr Intern	Medical Records Unit		Print

Separation Summary

Government of South Australia
SA Health

PATIENT IDENTIFICATION
MRN: 000000-HOSP Sex: Female
Name: PATIENT, MARY
DOB: 10/11/1931 Age: 77 y
Address: 1 ANY DR NORTH ADELAIDE SA 5006

SEPARATION SUMMARY

Admission Date: 03/08/2009
Separation Date: 04/08/2009
Dest. on Separation: Home
Date Time Sent: 05/08/2009 08:45
Abendina Doctor/Consultant: Peter Doctor

Gastro-oesophageal reflux disease
Nil

- Diabetes mellitus poorly controlled
- Ischaemic heart disease – x2 CABG 5 yrs ago
- Hypercholesterolemia
- Hypertension
- Ulcerative colitis
- Hiatus hernia
- Benign thyroid tumour
- Hysterectomy
- Appendectomy
- Varicose vein stripping

Nil

Infectious Risk – Please note all descriptions specific to the patient may not have been contacted the source hospital for this document.

Central chest pain which gradually resolved within one hour. She was also similar to the sensation prior to her 2004 CABG. Her husband took her pulse and said it felt irregular. Her normal, pulse regular. Other examinations normal. ECG normal.

Iron deficiency anaemia (Hb 101)
 <0.02, CK not raised.
 She is on pantoprazole and is now pain free.
 She has changed and she was discharged with advice to continue with

Test Name

Test Name
COMPLETE BLOOD EXAM
CARDIAC TROPONIN
BIOCHEMICAL ANALYSIS



Next steps

- > Refine current indicators
- > Consumer satisfaction KPI
- > ? Outcome measures
 - Re-admission rates, reduce patient harm
- > Handbook
- > Workforce
 - Maintain or increase numbers
 - Workload and competency
 - Clinical roles v APAC roles
- > Country Health, Mental Health



Summary

- > Introduction of APAC
- > Significant improvements – reconciliation
 - Admission
 - Discharge
- > Continuity of care - communication
 - Hospital
 - Primary health care providers
 - Residential care facilities
- > Ongoing quality improvement





Acknowledgements

- > SA Health
- > APAC working group
 - Olimpia Nigro
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 - Kaye Barratt



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