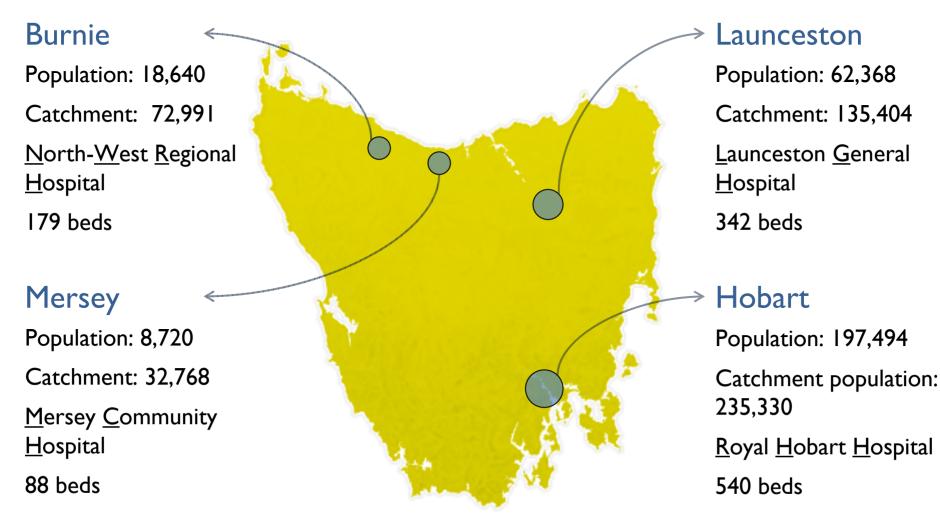
Medication reconciliation using electronic tools – The Tasmanian experience



Ben Chalmers Specialist Pharmacist Information Management



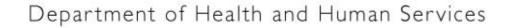
Map of Tasmania



Electronic tools for medication reconciliation



- Aim: to replace paper based recording systems for clinical pharmacy activities with a computer system
- Drivers:
 - Efficiency sought from being able to store and report on all activity
 - Safety in rapid and complete recall of patient's previous medication history
 - Quality use of medicines with bedside DSS





The tools



- The HCS Clinical Suite by HealthCare Software
 - PharmCare for clinical pharmacy
 - ECCo for discharge summaries
 (Electronic Discharge Summaries EDS)



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	Assessment	Last Assessment	Notes
Meds Managed By:	Patient		
Compliance:	Inadequate		Aspirin taken twice weekly
Sight Issues:	Yes	None Reported [08/10/2010]	Wears reading glasses
Hearing Issues:	Yes		Wears hearing aids
Cognition Issues:	None Obvious		
Swallowing Issues:	Yes	None Reported [08/10/2010]	Can't swallow large tablets
Understands English?:	Yes		
Other Issues:	None Reported		

Medication Aids

None Recorded

Statu		R/V List	Last Action	Details	Section	Med Actions
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Active	1	1	8 Oct 2010 Continued	Aspirin Capsules 100mg eg Astrix 100 : Stroke prevention Take 1 capsule in the morning with or after food	Not On Interview	[Continue] [Cease] [Withhold] [Change]
Active	V	1	8 Oct 2010 Started	Glucosamine sulfate Tablets 500mg eg Blackmores Glucosamine Take 1 tablet daily	Not On Interview	[Continue] [Cease] [Withhold] [Change]
Active	~	1	8 Oct 2010 Started	Meloxicam Tablet 15mg eg Mobic: Pain and inflammation Take 1 tablet daily with or after food	Not On Interview	[Continue] [Cease] [Withhold] [Change]

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Active	~	~	8 Oct 2010 Started	Glucosamine sulfate Tablets 500mg eg Blackmores Glucosamine Take 1 tablet daily		Not On Interview	[Continue] [Cease] [Withhold] [Change]
Active	V	~	8 Oct 2010 Started	Meloxicam Tablet 15mg eg Mobic : Pain and inflammation Take 1 tablet daily with or after food		Not On Interview	[Continue] [Cease] [Withhold] [Change]
Active	V	~	8 Oct 2010 Started	Oxycodone hydrochloride Tablets 5m eg Endone : Pain, severe Take 1 tablet four times a day when n		Not On Interview	[Continue] [Cease] [Withhold] [Change]
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Active	1	*	8 Oct 2010 Started	Simvastatin Tablets 20mg eg Zimstat : Hypercholesterolaemia Take 1 tablet at night		Not On Interview	[Continue] [Cease] [Withhold] [Change]
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Currei			ercholesterolaem	ia	Not Assessed		0 - [No end date]
Currei			ke prevention		Not Assessed		0 - [No end date]
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	Observations						-vi M						
	User: Ben Chalme	ers		Date:	8/10/2010 8:01 PM								
	Body												
	Weight [kg]:	98		BMI:	35.14 (Obese)								
	Height [cm]:	167		Ideal Body Weight:	63.5kg (Medium Frame)	-							
	Waist Measurement [cm]:	N/A		Note: -10% light frame, -									
	Waist measurement [cm].	IV/A		Waist Risk Indicator:	6	1							
				Body Surface Area:	2.13m ²								
					2.1311								
	Cardiovascular Health			Conditioned and Dist.									
	Heart Rate [bpm]:	88		Cardiovascular Risk:									
	Systolic Blood Pressure [mm Hg]:			Cholesterol Category	Moderate								
	Diastolic Blood Pressure [mm Hg]:	75											
	Total Cholesterol [mmol/L]:	5.7											
	Cigarettes [per day]:	N/A											
	Diabetic:	NO											
	Renal Function												
	Serum Creatinine [µmol/L]:	1	02	Creatinine Clearance									
	Estimated GFR:	63 mL/min/1.7	'3m ²	Note: IBW used if actual	weight higher								
		Mild (CKD 2)		Uncorrected GFR:	78 mL/min								
				If Serum Creatinine is un value of 60µmol/L.	der 60µmol/L, clearance is calci	ulated using a							
	Direct Sugar			value of sopmore.									
	Blood Sugar Glucose [mmol/L]:	8.2		Glucose Category:	High Glucose								
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	Notes None Recorded												
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	Current Adverse Drug	Reaction	Assessn	nents		- 🛃 🛃							
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G	Not Recorded	Caffeine	Caffeine consumption				
	Not Recorded	Exercise	Exercise Regime				
	Not Recorded	Nutrition	Nutrition				
6	Not Recorded	Recreational Drugs	Recreational / illicit drug use				
G	Not Recorded	Smoking	Cigarette and other tobacco consumption				
1	Other Hospital: Residential Care Fa Hospital records:	acility:	X Community Pharmacist: X Patients own medications: X Community Nurse:	× × ×			
(Other:		×				
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(Other analgesics Sleeping tablets Eye/ear/nose dro		Anactos Aperients/antidiarrhoea Pessary/suppository/ene Regular injections				
	nhalers/puffers Sublingual table		Vitamins Herbal/natural meds				
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	Ward: Medical East			The Town Pharmacy		
	Consent: Not Obtain	ed		unt Street		
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	Review Date: 08/10/2 Version: Original	2010	Phone:	03 6431 4545 Fax: 03 6431 4122		
	Author: Ben Chalmers	s (Developer)				
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	Name	Assessment	Date	Notes		
	Meds Managed By	Patient	08/10/2010			
	Compliance	Inadequate	08/10/2010	Aspirin taken twice weekly		
	Sight Issues	Yes	08/10/2010	Wears reading glasses		
	Hearing Issues Cognition Issues	Yes None Obvious	08/10/2010	Wears hearing aids		
	Swallowing Issues	Yes	08/10/2010	Can't swallow large tablets		
	Understands Englis	1999.000	08/10/2010	Cart Swallow large (ablets		
	Other Issues	None Reporte				
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The tools



- The HCS Clinical Suite by HealthCare Software
 - PharmCare for clinical pharmacy
 - ECCo for discharge summaries
 (Electronic Discharge Summaries EDS)
- Tablet PCs with wireless capability



Props



- Here is the show and tell
- These are the tablet PCs
 - Motion LEI700
 - Laptop without a keyboard
 - Panasonic ToughBook CF HI
 - Slower processor, I Gig RAM
 - Smaller screen
 - But rugged







- 2006 Business case for clinical pharmacy system to be included in new tender for pharmacy application
- 2007 Tender process with iSoft and HCS as successful vendors
- 2008 Go-Live of PharmCare at LGH after ECCo pilot success
- 2010 Clinical Suite is rapidly evolving



The experience



- LGH combination of the PharmCare and ECCo applications a great success
 77% Reconciliations
 512 in the last 2 months
- Success has spread to the NWRH 70% Reconciliations
 191 in the same period



The experience



- RHH limited uptake of PharmCare
 - Barriers in IT infrastructure, tablets and high workload
 - ECCo project has been stalled, synergy lost
 - Resource overhead of electronic tools beyond the capacity of the Pharmacy Department

Still 104 reconciliations in August before reverting to paper MHR tool



Governance (what happened to 2009?)



- Multiple stakeholders in a single system
- Project resourcing
 - Scope creep
 - Short timelines
- PAS project
 - Prioritisation a major risk to smaller projects



Human Issues



- Business process change
 - Adopt and adapt
 - Documentation of business processes
 - Specification of application requirements is vital
- User interface Human Computer Interaction
- Technophobia



Hardware and IT environment



Then 2007/8

- Tablet PCs
- G-Series Wireless (or no wireless)
- Windows XP
- Internet Explorer 6

Now 2010/11

- iPad (not yet!)
- N-Series Wireless
- Windows7
- Internet Explorer 8



Standards and concepts

- NeHTA
 - Standards for data elements included
- AMT
 - Generics
 - Medication histories
- SNoMed-CT
- National Health Identifiers and her
- HL7 messaging









- Great value in eHealth
 - Sharing of information by new channels
 - Bringing multi-disciplinary input to the front
- Balance of costs
 - Maintenance of systems
 - Hardware and training
- Best outcomes in integrated approach





Thank you





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