The truth, the whole truth and nothing but the truth

Data Linkage Symposium 25 November, 2014

Overview

- Cardiac Clinical Informatics Unit – Who, what, why and where
- Examples of data linkage
 - Current linkages
 - Opportunities for linkages
 - Improve clinical data quality
 - Operational reporting

Statewide Cardiac Clinical Informatics Unit

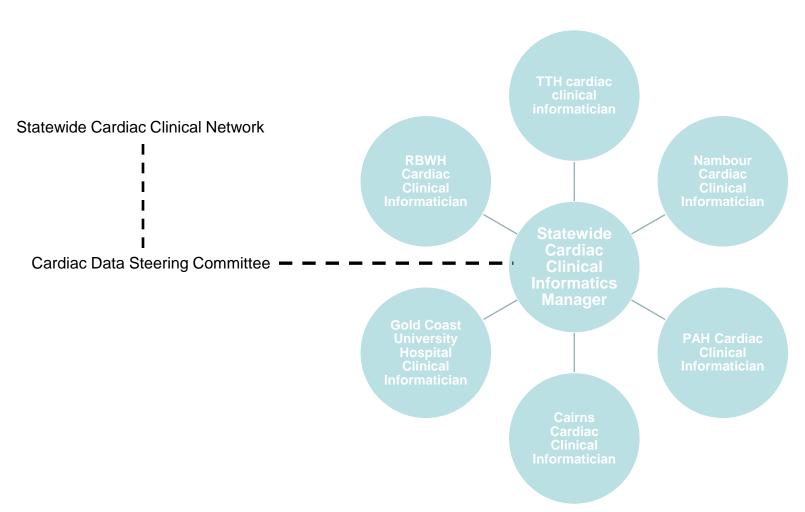
Who, What, Why, Where and How

Who?

- The Cardiac Information Solutions Program (CISP) is an initiative of the Statewide Cardiac Clinical Network
- Multiyear program of work initiated to resolve information barriers to the provision of safe, effective and efficient cardiac clinical care within HHSs across Queensland

CISP Stage 3 Tranches	Tranche 1 Building and extending on baseline capability, focus on tangible and early benefits, higher level of planning certainty	Tranche 2 Building on enhanced capability from Tranche 1, continued focus on benefits realisation, planning certainty based on	Tranche 3 Capability building more targeted, planning certainty increased based on enhanced capability from earlier projects
End of Tranche reviews	(Approx - Antonio)	outcomes of Tranche 1	Annores annonue
 Project 1: Interventional Cardiology (CCL) AIM: Continue existing work, stabilise CCL solution and free up CISP resources to focus on other CISP initiatives Project 2: Statewide and National Safety and 	Hand over to COSU and CCIU		
Quality Reporting (SNSQR) AIM: Initiate early and interim statewide and national safety and quality reporting, realise benefits early, inform later options	Hand over to COSU and		
OProject 3: Electrophysiology (EP) AIM: Develop requirements to support EP Procedural Reporting, options analysis focussing on leveraging off existing cardiac systems	CCIU		
Project 4: Electrocardiograph (ECG) AIM: Continue existing work as a priority, confirm requirements, review options to leverage off existing capability within QH to support ECG Pilot	CCIU Contraction Review Seek approval for		
Project 5: Cardiac Clinical Data Registry (CCDR)	Tranche 2	COSU	
AIM: Continue existing work, complete market scan and options analysis, confirm CCDR options, procure solution if required and approved	Seek approval for Tranche 2	Review Seek approval for Tranche 3	End Hand over to COSU and
O Project 6: Echocardiography (Echo) AIM: Develop requirements to support Echo in the northern areas, options analysis focussing on leveraging off existing cardiac systems, review options to integrate with existing southern systems		Sten Peyley Seek approval for Tranche 3	CCIU End Hand over to COSU and
Project 7: Acute Patient Triage and Transfer (Acute PTT)			CCIU
AIM: Develop options analysis for a cardiac PTT solution, review dependencies and options to leverage existing capability		Seek approval for Tranche 3	End Hand over to COSU and CCIU
Project 8: Common Application Platform (CAP) AIM: Confirm need and requirements for a CAP based on results of other projects, progress procurement of CAP if required		Seek approval for Tranche 3	End Hand over to COSU and CCIU
Work Package: Cardiac Operational Support Unit (COSU) AIM: Develop support model for ongoing and long term transition of the program outcomes	Start End ∘	Continue under permanent support agreements	×
Work Package: Cardiac Clinical Informatics Unit (CCIU) AIM: Set up long term clinical informatics capability to focus on strategic planning and initiatives to maximise cardiac information and ICT resources	Stant Review Seek approval for Tranche 2	Review Seek approval for Tranche 3	Continue Seek approval for permanent unit

What?



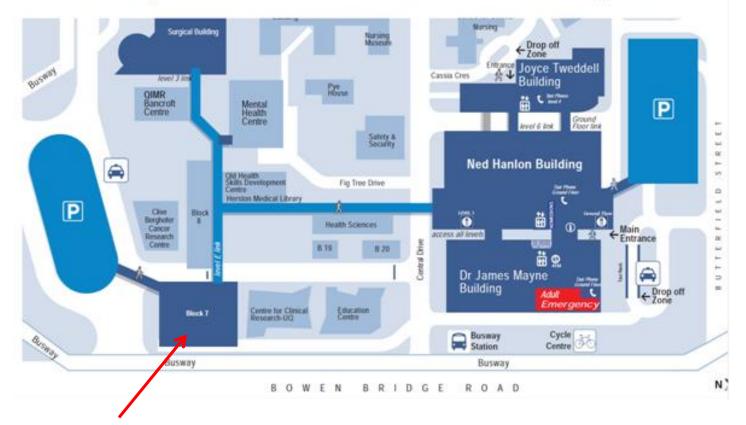
Centralised model for collecting and distributing fragmented cardiac data

Why?

- Cardiac Catheter Laboratories x 7
- Cardiac Surgery x 3
- Heart Failure Statewide
- Cardiac Rehabilitation pilot Metro South

Where?

Royal Brisbane & Women's Hospital



Block 7, Level 6

How?

Philosophy

- 1.Collect once, use many
- 2.Data is for learning, not judgement
 - improving patient outcomes
 - Statewide clinical indicator program
 - Participate in National Clinical Quality Registries
 - Health services and care outcome planning
 - Compliance with legislative performance management accountabilities at a National, State and Local level

Approach

- Clinician-led/focused informatics service
 Cardiac Data Steering Committee
- Phased approach initial priority to build trust in the quality and use of data
 - Phase one: developing clinically relevant reporting
 - Cardiac Clinical Indicator Program

The right data

- Clinical systems lack administrative data
- Administrative systems lack clinical data
- Data linkage provides a comprehensive view using both administrative and clinical data
- Leads us to the truth, the whole truth and nothing but the truth

Examples of data linkages

1.Current linkages
2.Opportunities for linkages

–Improve clinical data quality
–Operational reporting

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Example 1. Current linkages

Cardiac Clinical Indicator Program

- Cardiac Data Steering Committee developed the first draft of the cardiac clinical indicator program in Sept, 2013
- Endorsed at the inaugural Statewide Cardiac Data Forum in November 2013
- 5 indicators, 2 of which require data linkage

Qld Cardiac Performance Metrics

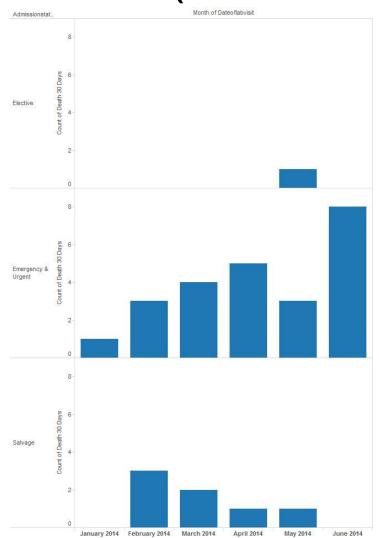
CI.1 All cause, unadjusted 30-day mortality post PCI

CI 2. Proportion of STEMI patients presenting within 6 hours of symptom onset, who received an intervention within 90 minutes of first medical contact and/or first diagnostic ECG

CI 3. Proportion of NSTEMI patients who received angiography within 72 hours of hospital admission

- **CI 4**. Proportion of major IN LAB events post PCI (perforation requiring intervention, death, tamponade, emergency CABG or CVA-stroke)
- **CI 5.** Proportion of PCI cases where total entrance dose exceeded the high dose threshold (HDT)

CI1 Tableau (fictitious data)



Examples of data linkages

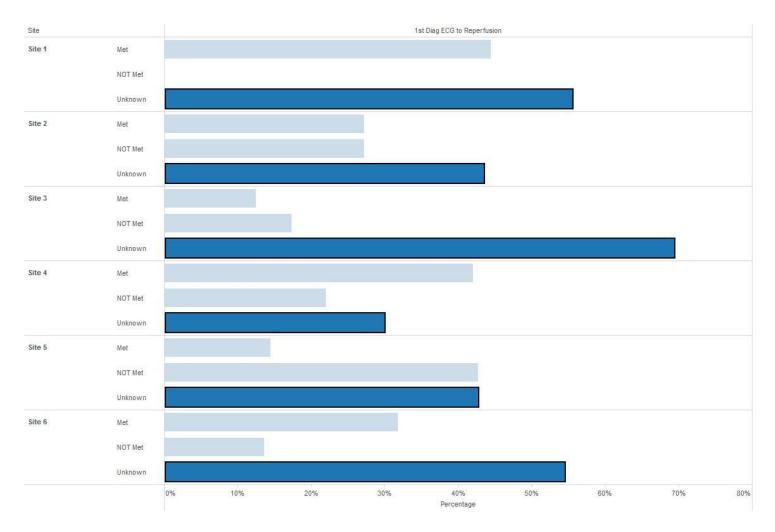
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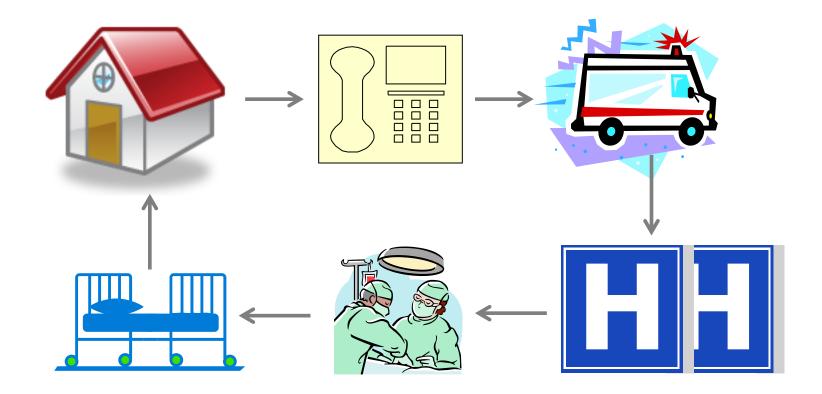
Qld Cardiac Performance Metrics

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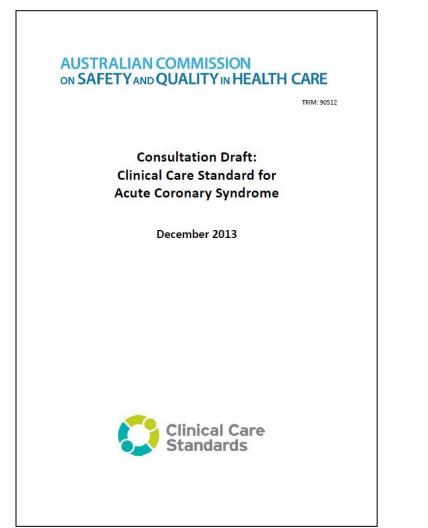
CI2 Tableau (fictitious data)





- Queensland Ambulance Service
- Health Statistics Unit
- Cardiac Clinical Informatics Unit

National reporting



Clinical Care Standards for ACS

Clinical Care Standard for Acute Coronary Syndrome^{*} A patient with acute chest pain or other symptoms suggestive of an acute coronary syndrome receives a 12-lead electrocardiogram (ECG) and the results are interpreted by an ECG-qualified clinician within 10 minutes of first emergency clinical contact. A patient with an acute ST segment elevation myocardial infarction (STEMI), for whom

- A patient with an acute ST segment elevation myocardial infarction (STEMI), for whom emergency reperfusion is clinically appropriate, receives primary percutaneous coronary intervention (PCI) or thrombolysis within time frames recommended by the current National Heart Foundation of Australia/Cardiac Society of Australia and New Zealand Guidelines for the Management of Acute Coronary Syndrome.
- 3 A patient presenting with acute chest pain or other symptoms suggestive of an acute coronary syndrome receives care guided by an evidence-based clinical pathway.
- 4 A patient admitted to hospital with a non-ST segment elevation acute coronary syndrome (NSTEACS) is managed based on a documented, evidence-based assessment of their risk of major adverse cardiac events.
- 5 The role of coronary angiography with a view to appropriate coronary revascularisation is considered and discussed with a patient with a non–ST segment elevation acute coronary syndrome (NSTEACS) who is assessed to be at intermediate or high risk of an adverse cardiac event.
- 6 Before a patient with an acute coronary syndrome leaves the hospital, they are involved in developing an individualised care plan that identifies the lifestyle modifications and medicines they should take to manage their risk factors, addresses their psychosocial needs and includes a referral to a cardiac rehabilitation program that is appropriate for them. This plan is also provided to the patient's general practitioner.

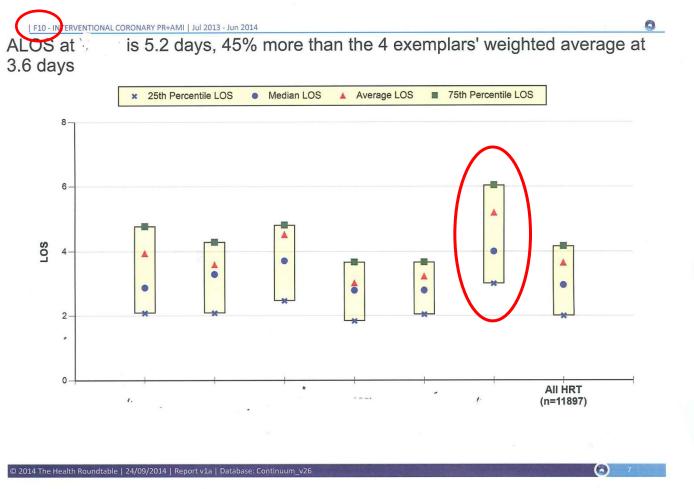
Examples of data linkages

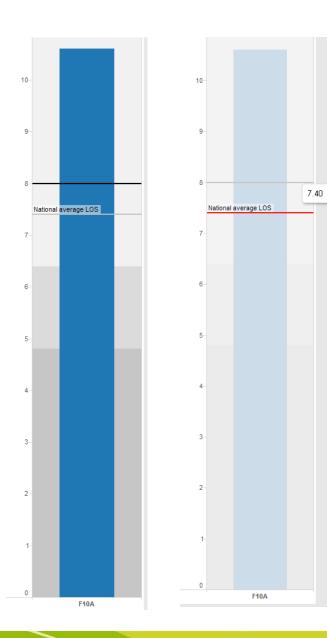
1.Current linkages
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Example 3. Health Roundtable

F10 Interventional Coronary Procedure + AMI + CCC





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Admission Date	Admission DRC Code	Admission Source	Cohort ID	Date of Lab Visit	Discharge Date	DOB	DRG Code	F
1/01/2014	F10B	Inpatient - Cardiology	1	2/01/2014	6/01/2014	28/07/1953	Null	5
2/01/2014	F10B	Inpatient - Cardiology	2	2/01/2014	6/01/2014	26/04/1957	Null	e
3/01/2014	F10B	Inpatient - Cardiology	5	3/01/2014	6/01/2014	3/07/1945	F10B	e
3/01/2014	F10B	Inpatient - Cardiology	8	3/01/2014	6/01/2014	24/03/1966	Null	e
5/01/2014	F10B	Inpatient - Cardiology	17	7/01/2014	8/01/2014	22/02/1963	Null	5
5/01/2014	F10B	Inpatient - Cardiology	19	7/01/2014	8/01/2014	15/08/1964	Null	7
6/01/2014	F10B	Inpatient - Cardiology	22	7/01/2014	10/01/2014	21/10/1956	F15A	7
6/01/2014	F10B	Inpatient - Cardiology	30	8/01/2014	10/01/2014	27/05/1967	F10B	4
6/01/2014	F10B	Inpatient - Cardiology	34	9/01/2014	10/01/2014	27/05/1967	F10B	4
10/01/2014	F10B	Inpatient - Cardiology	39	10/01/2014	13/01/2014	3/05/1973	Null	7
15/01/2014	F10B	Inpatient - Cardiology	57	16/01/2014	21/01/2014	20/10/1944	Null	e
15/01/2014	F10B	Inpatient - Cardiology	58	16/01/2014	20/01/2014	15/12/1973	Null	7
14/01/2014	F10B	Inpatient - Cardiology	59	17/01/2014	18/01/2014	20/07/1974	Null	4
15/01/2014	F10B	Inpatient - Cardiology	66	20/01/2014	21/01/2014	20/10/1944	Null	e
15/01/2014	F10B	Inpatient - Cardiology	68	20/01/2014	20/01/2014	15/12/1973	Null	7
18/01/2014	F10B	Inpatient - Cardiology	72	21/01/2014	24/01/2014	14/03/1962	Null	5

Queensland Government						11 - 11 - 14			
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PROCEDURE REPORT									
Patient Name:			CE						
UR Number :	Age :			Hospital Insurance :	Public				
DOB :	.2 Heigh	st: 17	5cm	Admission Status :	Inpatient - Ca	rdiology			
Gender :	Weig	ht: 97	NE .	Ward :	CCU				
Procedure Date :	BSA :			Program :	CARD				
Accession Number :	F BMI	31	7kg/m2	Exam Location:	CCL 2				
Referring Doctor :									
Admitting Cardiologist:		12							
Consultant:	*								
PROCEDURES									
 Coronary Angiography 									
 2 or more Stents into m 	ultiple Coronary	Arterie	s						
INDICATIONS									
 Referred for an urgent proceds NSTEMI 	are for:								
TECHNIQUE/APPROACH									
Right Femoral artery			6 FR 1	0cm sheath					
PROCEDURAL MEDICATIONS									
Generic Name	Qty or Strengt	Rout	e Admir	istered					
Pre Procedure									
Pre Procedure Midazolam	2 mg	RV.	23/01	2014 13:05:11					
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The whole truth relies on

Quality data
 The right data

Thank you

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