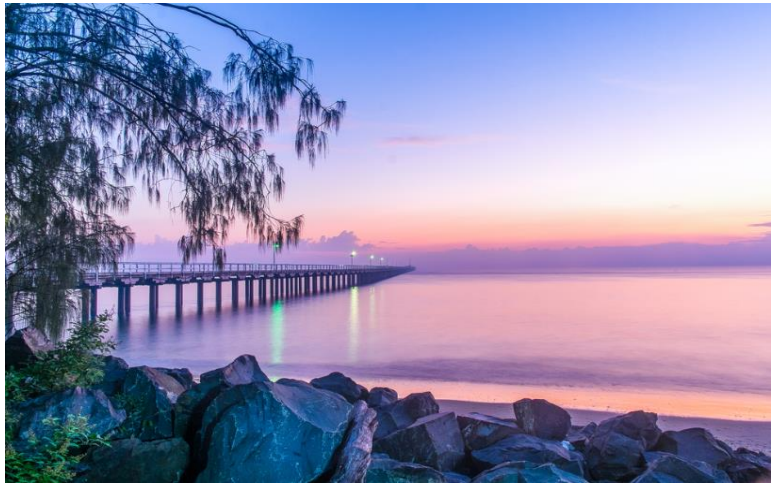
Welcome to Hervey Bay & St Stephen's Hospital!

We would like to respectfully acknowledge the Butchulla Traditional Owners of the land on which this event is taking place and Elders both past and present.

We also recognise those whose ongoing effort to protect and promote Aboriginal and Torres Strait Islander cultures will leave a lasting legacy for future Elders and leaders.



ST STEPHEN'S HOSPITAL

About UnitingCare Health St. Stephen's Hospital

Nicholas E. Davies Enterprise Award of Excellence

Joanne Hayden BSc(Hons) BPharm
Clinical Informatics Pharmacist

Proudly part of UnitingCare

ST STEPHEN'S HOSPITAL

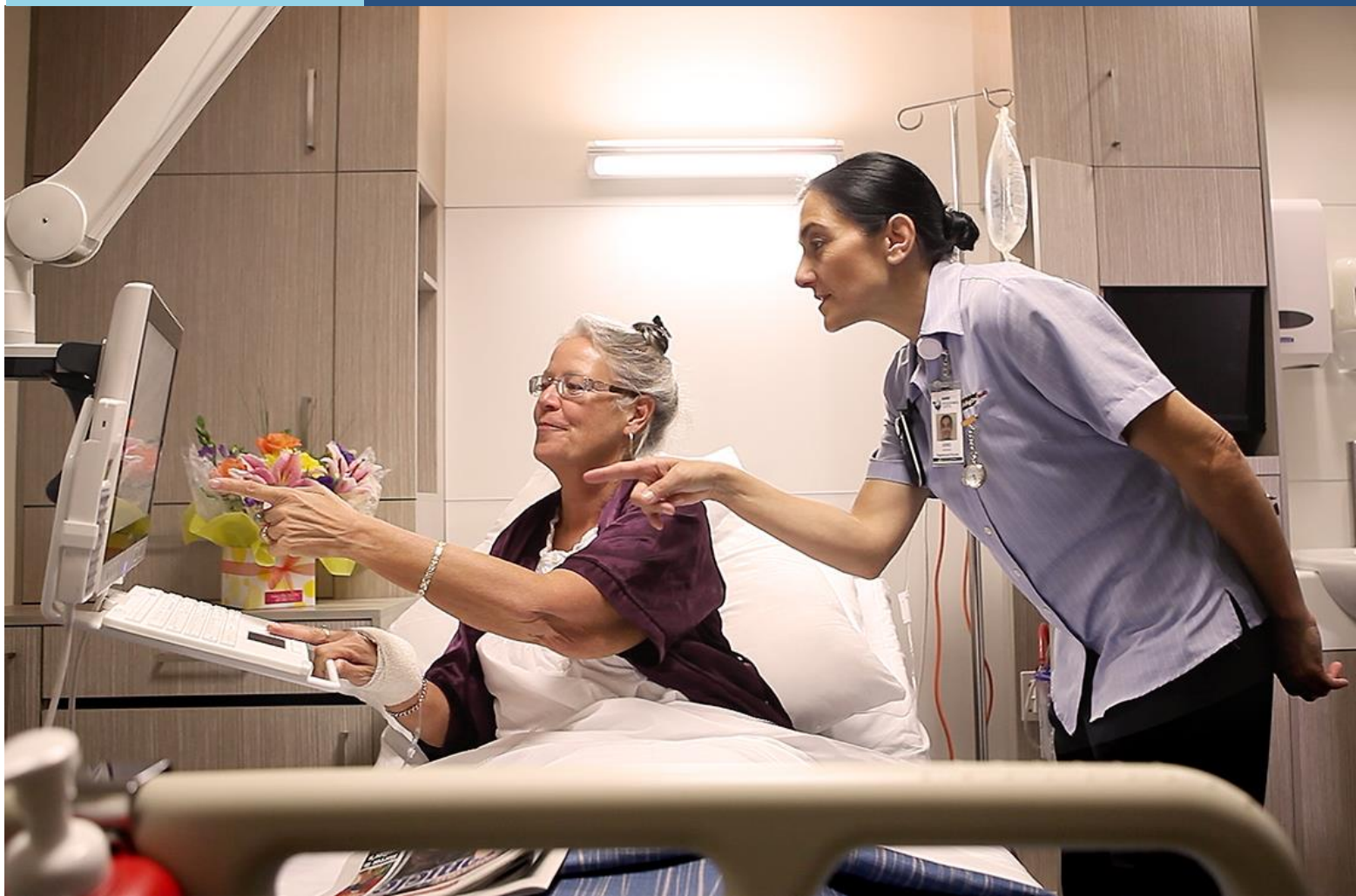
Who We Are

Vision

- UnitingCare Health will be a mission-driven provider of quality health care services in Australia.
- We will have excellent facilities and technology but our major strengths will be our people and partnerships.
- We will set the standards for accountability to patients, partners and the community.
- We will be known for excellent standards and for our community contributions.

Mission

As part of UnitingCare Queensland, the mission of UnitingCare Health is to improve the health and wellbeing of individuals and their families. We differentiate ourselves by living out our values to optimise patient care and experience every day.



UnitingCare Health

- The Wesley Hospital
  - 536 overnight beds
  - 24 operating theatres
  - 19 ICU beds
- St Andrew's War Memorial Hospital
  - 250 beds
  - 15 operating theatres
  - 15 ICU beds
- The Sunshine Coast Private Hospital
  - 190 beds
  - 8 operating theatres
  - 12 ICU/CCU beds
- St Stephen's Hospital Hervey Bay
  - 96 beds
  - 5 operating theatres

UnitingCare Queensland

- UnitingCare Health
- Child and Families
- South-East Queensland Integrated Services
- Regional and Remote Service Group

ST STEPHEN'S HOSPITAL

Healthcare Service

- Wide Bay Burnett Region
- Fraser Coast population approx. 110, 000
- One of Australia's fastest growing regions
- Average age 55 years
- Health & Aged Care infrastructure investment
- 10% unemployment rate
- High Dept. Veteran Affairs population

Proudly part of UnitingCare

ST STEPHEN'S HOSPITAL

St Stephen's Hospital Profile

BEDS

- 96 Beds total
- 32 Bed Rehabilitation Ward
- 32 Bed Surgical Ward
- 32 Medical Ward

DAY PROGRAMS

- Rehabilitation programs:
  - Orthopaedic
  - Neurological
  - General reconditioning
  - Falls prevention
- Cardiac Rehab

- Programs coming:
  - Bariatric
  - Oncological
  - Mental health

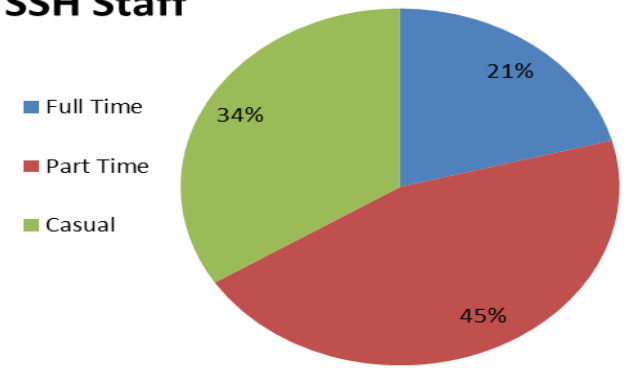
SPECIALIST SURGICAL SERVICES

- General surgery
- Orthopaedic
- Urology
- Ophthalmology
- ENT
- Gastroenterology
- Gynaecology
- Oral & Maxillofacial
- Vascular
- Plastic & Reconstructive
- Dental

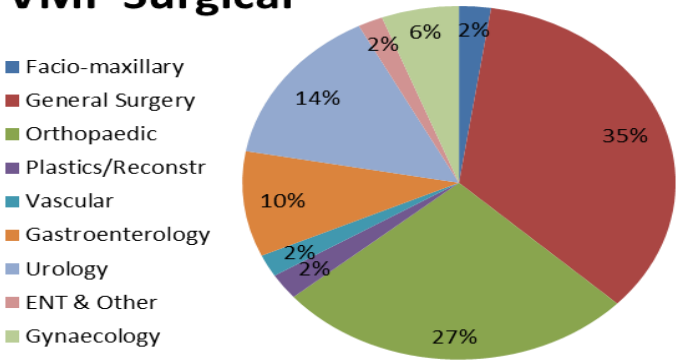
SPECIALIST MEDICAL SERVICES

- General Medicine
- Endocrinology
- Cardiology
- Oncology/Haematology
- Dermatology
- Sleep Studies
- Rehabilitation
- Respiratory Medicine
- Nephrology
- Neurology

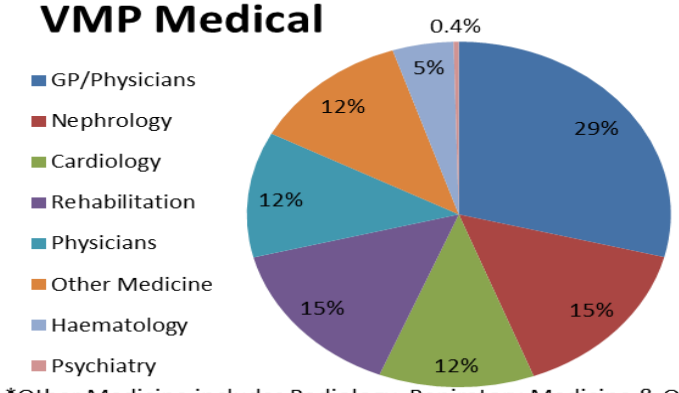
SSH Staff



VMP Surgical



VMP Medical



*Other Medicine includes Radiology, Repiratory Medicine & Opthalmology

THEATRES

- 5 Operating Theatres

VMPs

- 54 Specialist Medical and Dental VMPs

STAFF

- 52 Full Time
- 113 Part Time
- 85 Casual

St Stephen's becomes Hervey Bay's new Digital Hospital

July 2010
- Federal Government sought submissions via Health and Hospitals Fund for projects to improve access to regional and rural health services

May 2011
- Government announced $47.1M grant to UCH towards developing Australia's first fully integrated digital hospital
  - $25.9M towards construction costs
  - $21.2M for eHealth

June 2012
- Contract signed with Federal Government

July 2012
- Project Director for eHealth appointed – Connie Harmsen
- Australia's first CMIO appointed – Dr Monica Trujillo

13 October 2014
- St Stephen's Hospital Hervey Bay takes its first patient

December 2014
- St Stephen's Hospital is first in Australia to achieve HIMSS Stage 6

November 2018
- St Stephen's Hospital is first in Australia to achieve HIMSS Stage 7

13 October 2014

System Implementation Timeline

Oct 2014
Opening fully digital hospital with device integration & closed loop electronic medication management

Dec 2014
Achieved HIMSS6 status

March 2017
Integrated with the Australian Digital Health Agency's My Health Record

Jan 2018
Implemented Cerner Bridge Transfusion Administration

Oct 2018
Implemented Cerner Point of Care Specimen Collection for clinician collect

Nov 2018
HIMSS stage 7

Sept 2019
HIMSS Davies Award

	Governance and Leadership			
UnitingCare Queensland	Ann Cross		Craig Barke	
UnitingCare Health	Richard Royle	Arthur Yannakou	Richard Lizzio	Michael Krieg
St Stephen's Hospital	Deb Boyd	Amanda Cruwys	Darren Rogers	Madonna Bowers (Acting)

ST STEPHEN'S HOSPITAL

Medication Administration Variance Case Study

Joanne Hayden BSc(Hons) BPharm
Clinical Informatics Pharmacist

ST STEPHEN'S HOSPITAL

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Local Problem

Improve variance in the medication process.

Targeted Areas for Improvement

- Adverse drug events (ADEs)
- Medication omissions
- High alert medication errors (e.g. Warfarin, etc.)
- Transcription errors
- Prescription of allergy drugs and related near misses
- Duplication of therapy

ST STEPHEN'S HOSPITAL

Omissions – opportunities for improvement.

Local Problem

Baseline Data

Time Critical Medication Omissions

2.41% of med errors due to omission[1]

0.73% of med administrations cause an Adverse Drug Event[2]

1. SSHB Exec Report Oct 14 – Jan 15, total medication omissions/total medication orders. Average of % medication errors due to omission.
2. Melbourne Health GTT, Bates et al. (1995), Kadmon et al. (2009) & Aljadhey et al. (2013)

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The solution.

Create a Closed Loop Electronic Medication Management (CLEMM) System

- ✓ **Implementation of Barcoded Medication Administration (BCMA), Computerised Physician Order Entry (CPOE) & CLEMM**
- ✓ **Clinical Decision Support (CDS)**
- ✓ **Develop in-house custom reports**
  - Accurately report ward, patient and medication scanning rates for individual clinicians.
  - Detailed oversight of medication administration documentation.
- ✓ **Time in Motion study (BCMA)**
  - Hawthorne Effect witnessed
  - Reasons for workarounds identified
- ✓ **Reports in conjunction with study**
  - Identified reasons for workarounds & scan errors.

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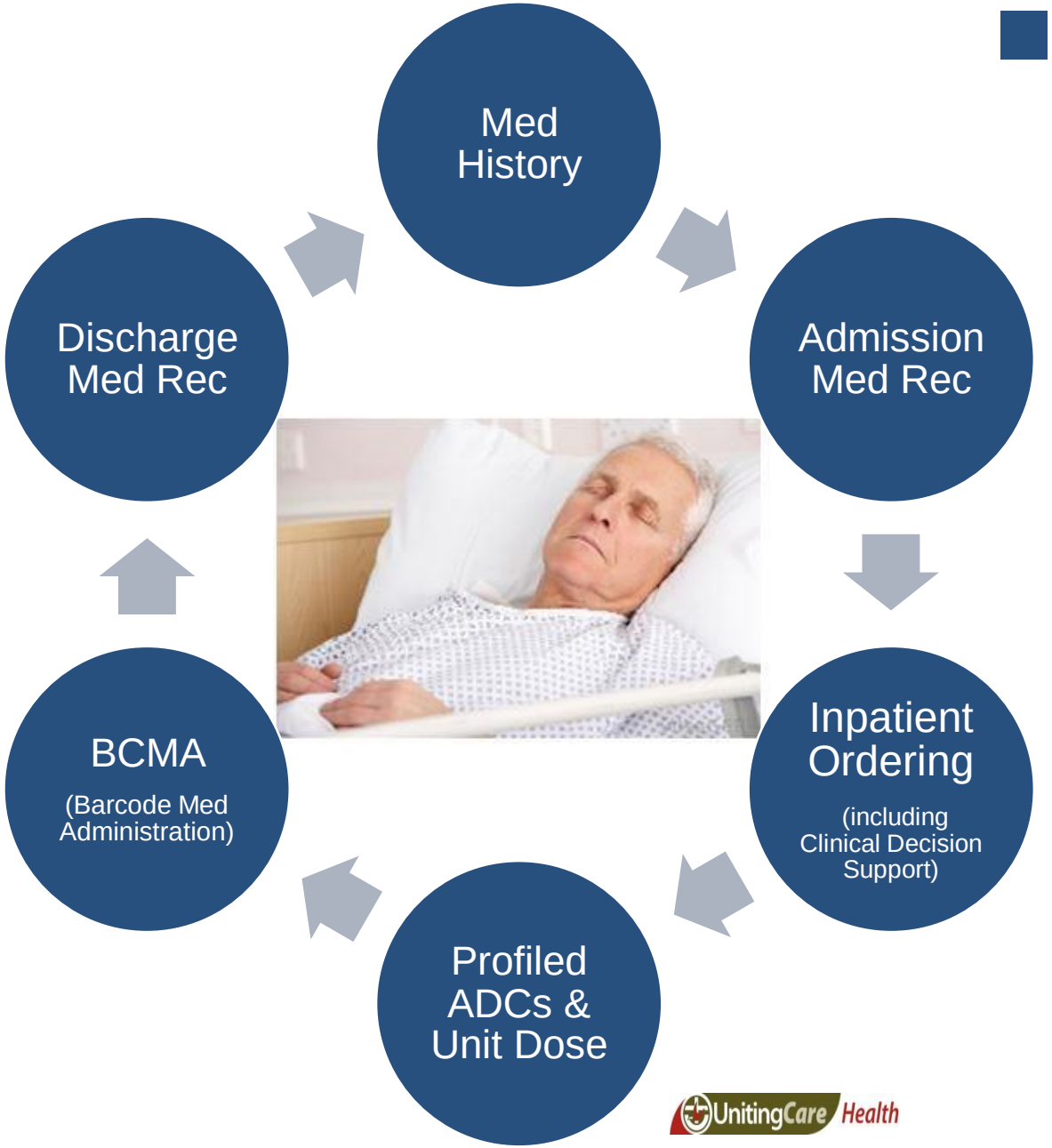
What is **CLEMM?**

- Closes the gaps within the medication management cycle.
- Reduces medication errors caused by poor documentation/communication.
- Ensures patient receives the exact medication which doctor prescribed.



UnitingCare Health

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Build & Design

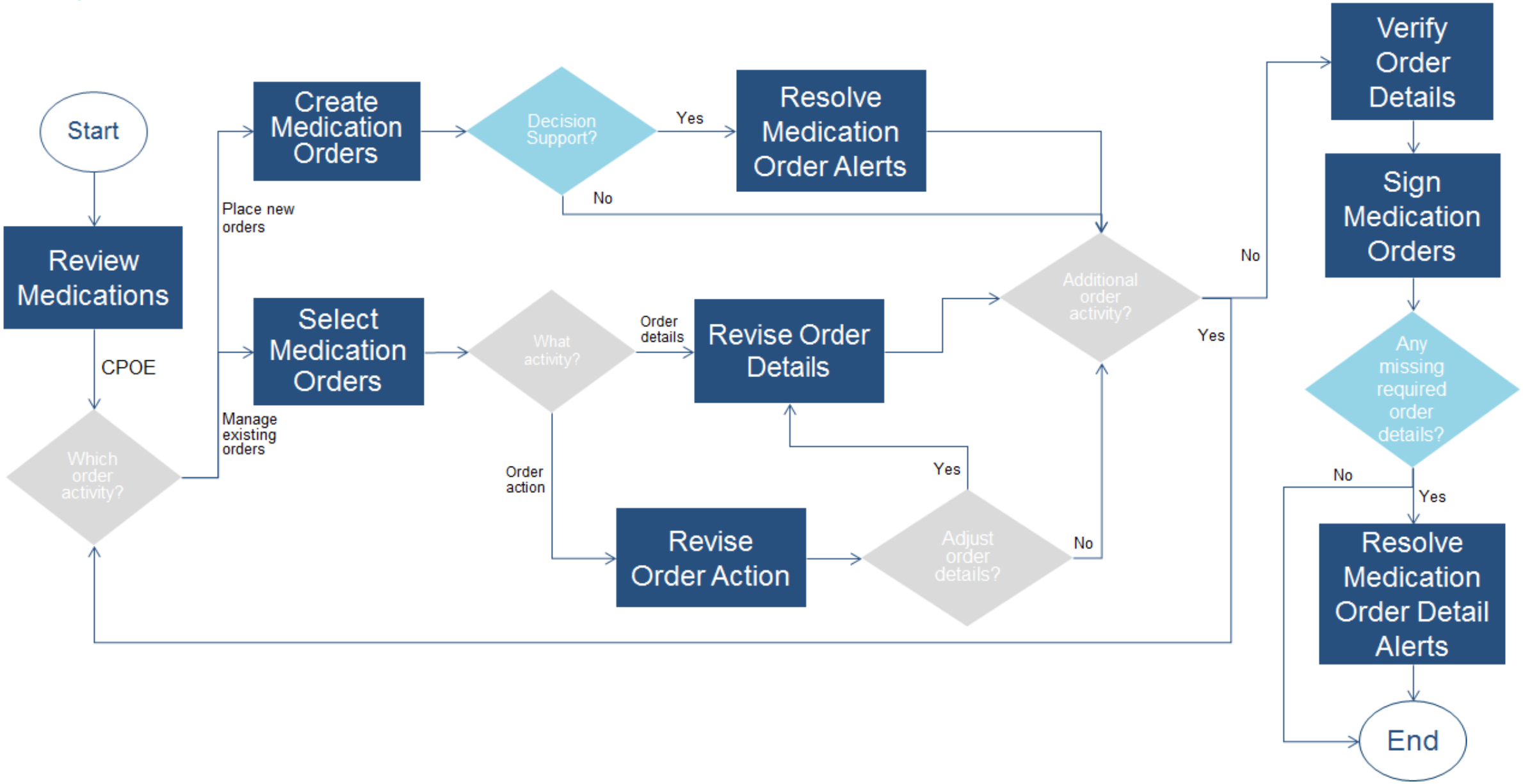
Clinically driven. Technology supported.

The integration between the following systems was crucial to the improvement in medication safety practices:

- Electronic Medical Record (EMR)
- Clinical Decision Support
- Computerised Physician Order Entry
- Pharmacy Systems
- Electronic Medication Administration Record (eMAR)
- Automatic Drug Cabinets

ST STEPHEN'S HOSPITAL

Clinically driven → Doctor's prescribing workflow
Technology supported → Ordering and decision making



ST STEPHEN'S HOSPITAL

Clinically driven → Doctor's prescribing workflow
Technology supported → Ordering and decision making

Medication Clinical Decision Support (mCDS)

(Collapse All)

[redacted]

The order was created with the following alerts:

oxycodone (Endone) 10 mg, PO, 6 hrly (interval), PRN: Pain

Allergy

Drug/Drug

Duplicate Therapy (3)

DC	Severity	Medication	Details	Status	Interaction Information	Reason
☐	Duplicate	**oxycodone-naloxone (Targin 15 mg-7.5 mg oral modified release tablet)**	1 tab(s), PO, BD	Ordered 11/05/2017 18:07	oxycodone-oxycodone	Select Override Rea
☐	Duplicate	**tramadol (tramadol 50 mg oral capsule)**	50 mg, 1 cap(s), PO, 4 hrly (interval), PRN: Pain	Ordered 11/05/2017 18:07	oxycodone-tramadol	Select Override Rea
☐	Duplicate	**fentanyl**	20 microgram(s), IV, 5 minutely, PRN: Pain	Ordered 11/05/2017 18:03	oxycodone-fentanyl	Select Override Rea

ST STEPHEN'S HOSPITAL

Build & Design

Governance Tools.

Why is this important and how will our future look?

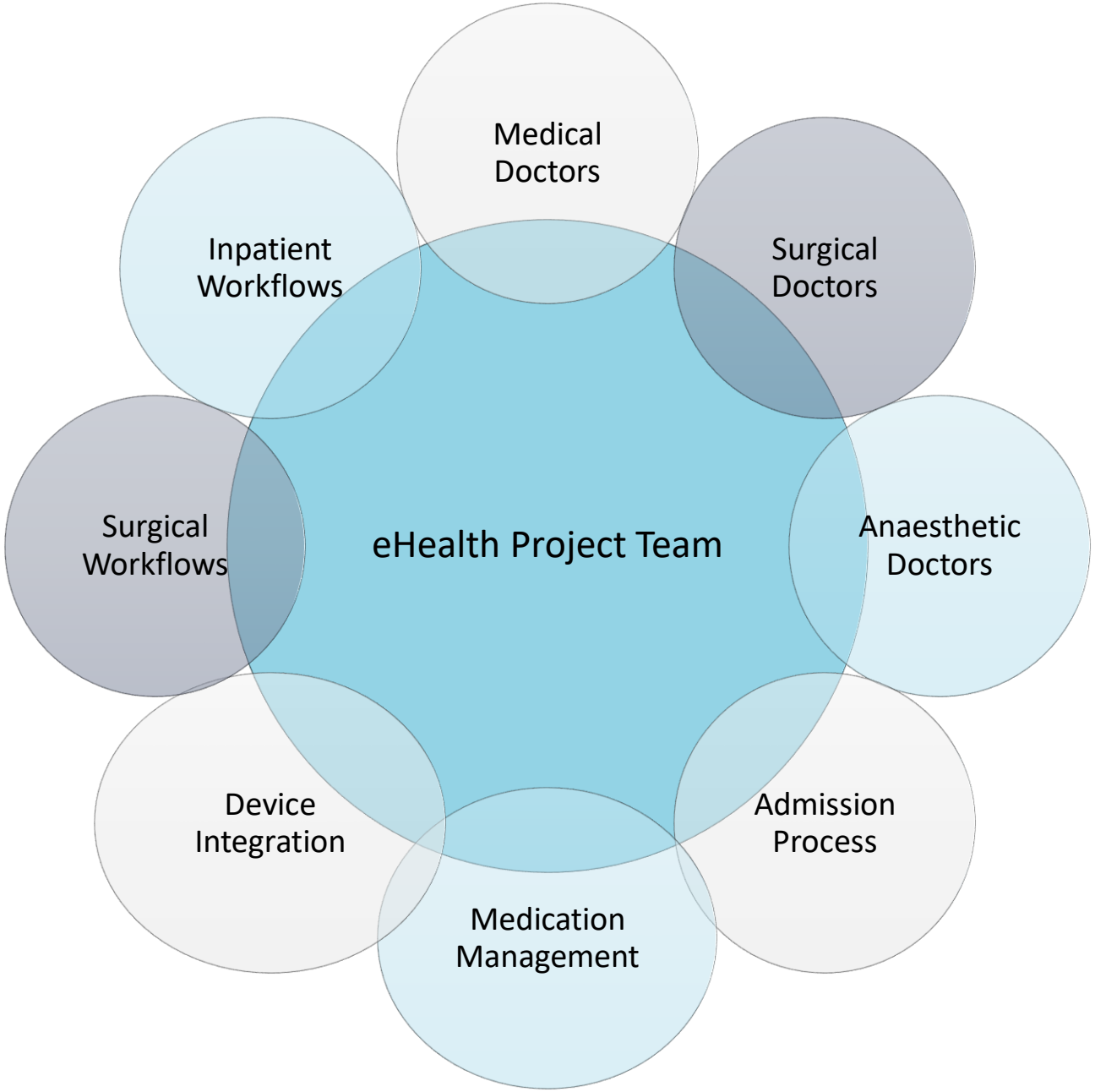
How will difficult decisions be made?

Scope & Structure, Implementation Plan, Testing!

How will we measure our success?

What do we need to implement to achieve our targeted benefits?

Governance and Decision Making.



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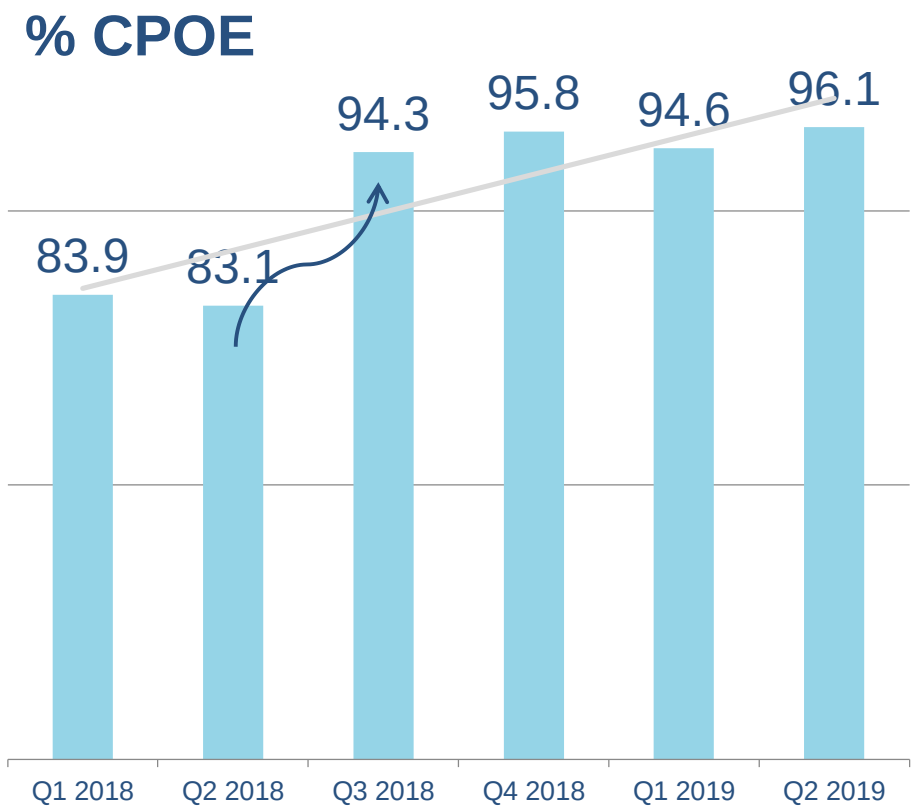
CPOE: Clinician Adoption

- ✓ Hospital & Group Leadership
  - Encouraging clinicians to have a voice in design and build decisions.
  - Regular personal communication.
- ✓ Clinicians, and specifically Doctors, closely involved in governance committees.
- ✓ Demonstrated benefits to clinicians.
  - Reporting, time savings, patient safety.
- ✓ Demonstrated ease-of-use and alignment with workflow.
- ✓ Availability of technical support.
  - On-site, over the phone and remote screen sharing to assist with troubleshooting and workflow questions.

Improving CPOE with clinician engagement



- Monthly, then weekly reports emailed to individuals by General Manager.
- De-identified data emailed to all clinicians.
- Generate an atmosphere of friendly competition/rivalry.
- Identify individuals requiring extra support and provide elbow-to-elbow training and guidance.
- Understanding individual's barriers and opportunities for learning.
- Clinicians reported problem with the data, investigation by eHealth team to correct background build issues resulting in improved accuracy of reporting.

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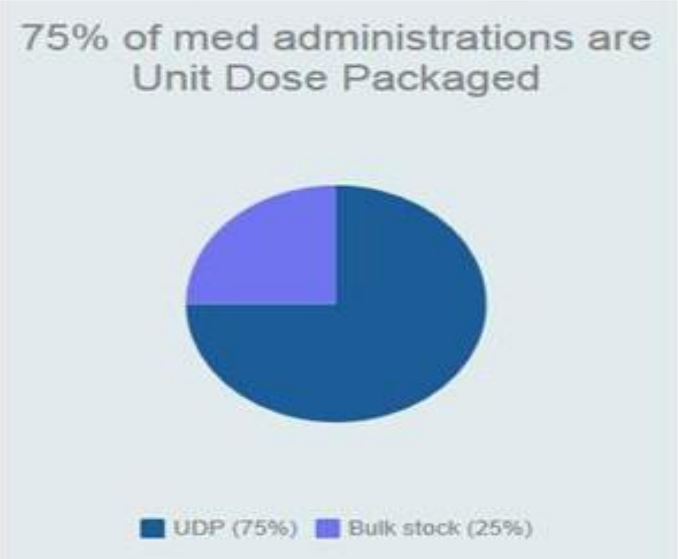
BCMA Design Factors

- Selecting a barcode system
- Type of identification band
  - Longevity & wearability.
- Where the barcode exists on the band
  - Distance between different types of barcodes.
- Scanner and mobility of scanner
  - wireless or fixed? Bedside or workstation on wheels?
- Infrastructure to support the technology.
  - Ensure no “dead spots” of connectivity throughout the hospital.
- Unit Dose Packaging
  - Manufacturing license, legislative requirements, machinery, skills.

What is Unit Dose Packaging?

- Repackaging of medications into single unit packages.
- Tablets, ampules, vials, syringes, are repackaged where possible.
- Barcode on package uniquely identifies the medication.



What is Unit Dose Packaging?

Packing ampules and vials

Packing tablets and capsules

What is Unit Dose Packaging?

- Practical considerations – if each medication is repackaged, then they will each need double the shelf space.
- Redesign of pharmacy shelving and space requirements.

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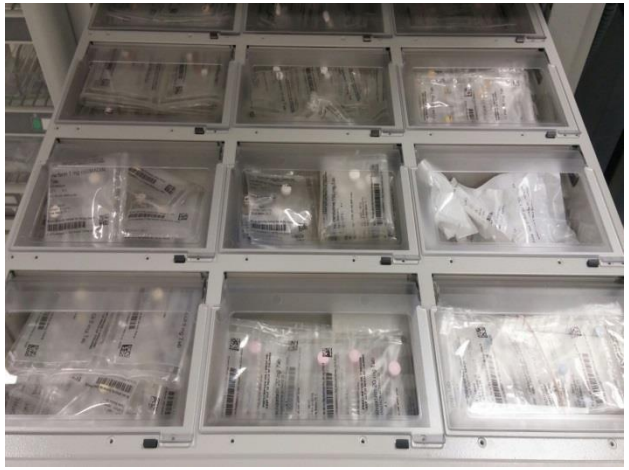
Profiled Automatic Drug Cabinets & Unit Doses

Profiled = orders flow from the electronic medical record to the drug cabinets. This allows nurses to remove medications specific to their patient and the time that the medication is due to be administered.

Increases medication safety and reduces administration errors as only medications due for that patient are shown for removal.



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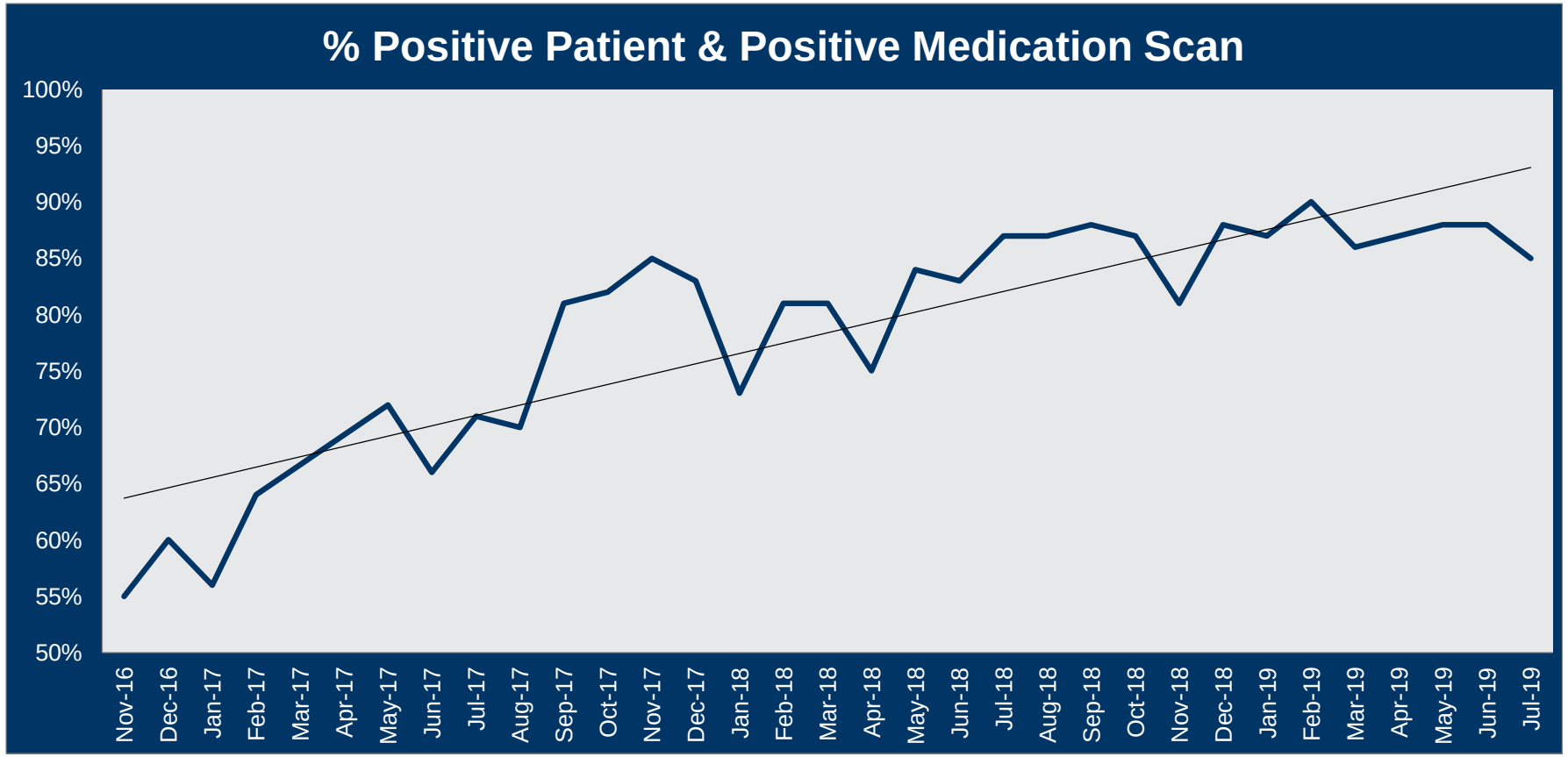
Barcode Medication Administration Rates

- Reporting on positive patient scan along with positive medication scan. Did the nurses scan the correct patient and then scan the correct medication before administering the medication?
- Different to HIMSS Stage 7 requirements which look at medication scanning attempts only and not on positive scans.



Reporting Data = Increased Visibility

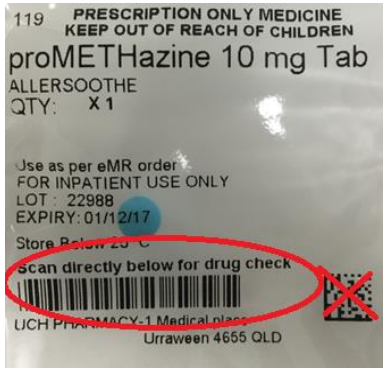
- Identifies ALL medication administrations in real time.
- Identifies if patient and medication barcode were scanned upon administration.
- Identifies exactly which number / code was scanned upon administration.

Med Not Identified		1161206002016.00	26605246
Med Not Identified	AC4239596		26605246
Med Not Identified		1160907000740.00	26602899
Med Not Identified	METO30		26602899
Med Not Identified		1161216000767.00	26602899
Med Not Identified	AMIT00		26602899
Med Not Identified		1170105000338.00	26602899
Med Not Identified		1161221000057.00	26602899
Med Not Identified		1160322002031.00	26602899
Med Not Identified		1161025001280.00	26602899
Med Not Identified	(466355		26602899
Med Not Identified	[=====c=c==========PAN		26121869
tified	SAB301		26121869
tified	PRE4303		26121869
dentified		4237386.00	26185231
dentified		4234938.00	26122016
dentified	ac4237537		26121874
dentified	ac4237537		26121874
dentified	ac4237537		26661064
dentified	ac4237537		26661064
dentified	ac4237537		26393460
Patient Not Identified	ESOM300		26149936

Reporting Data = Increased Visibility

Issues identified:

- ✓ Scanning of incorrect barcode for medications
- ✓ CAPs Lock FIN errors identified
- ✓ Scanning of incorrect barcode on arm bands (Matrix vs linear)
- ✓ Scanners losing charge / not charging
- ✓ Attempts now identifiable
- ✓ Scrambled reads



This barcode is only for use within Pharmacy. It will NOT read correctly at the bedside!

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How is the Health IT utilised?

Technology in clinical workflows.

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- Electronic Medical Record integration
- Computerised Physician Order Entry
- Barcoded Medication Administration
- Technology focused on safety and improved medication process

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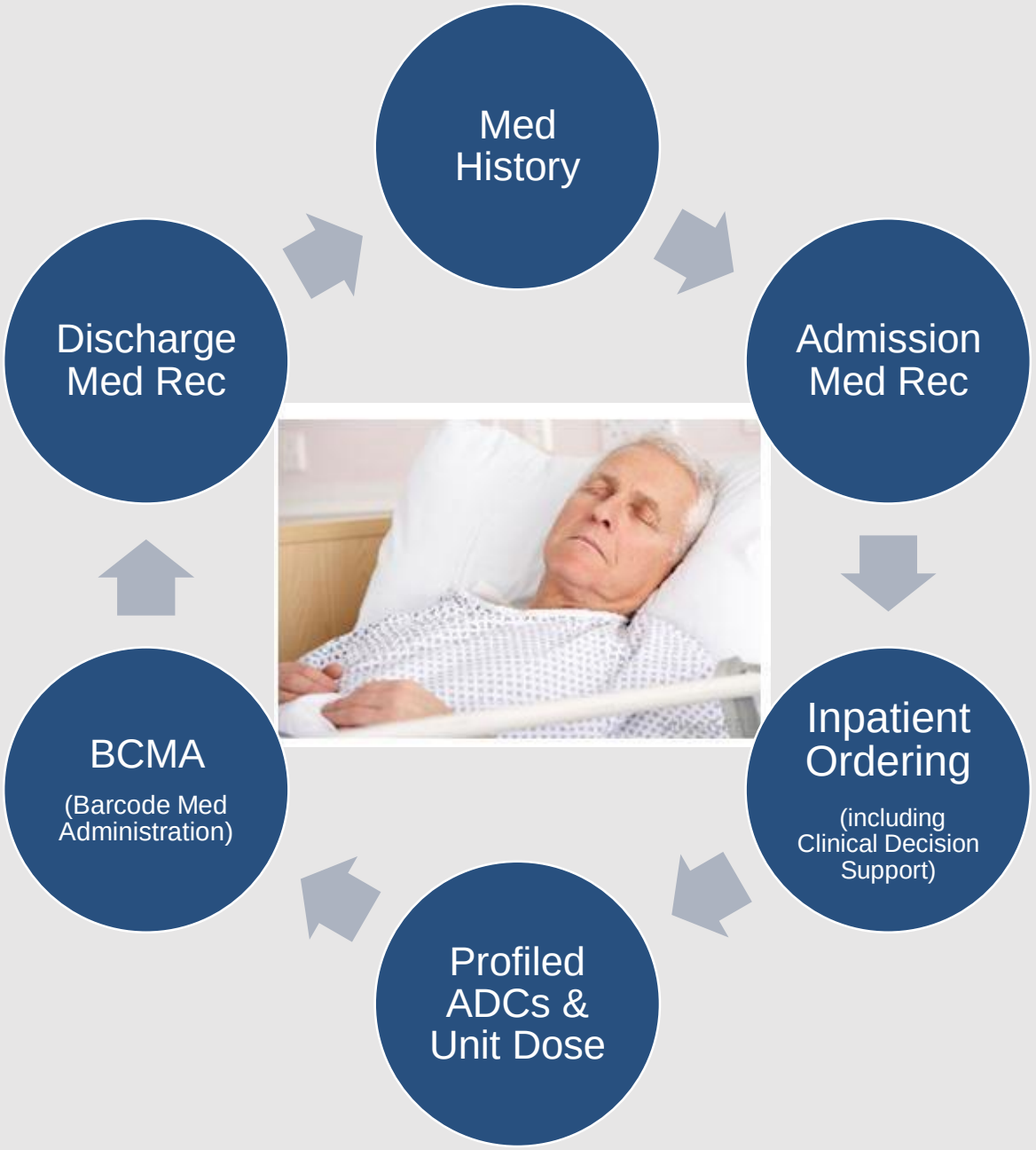
Technology in clinical workflows.



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Medication History

Pharmacist documents medications taken prior to admission.

Document Medication by Hx

[redacted] Age: [redacted] years Gender:FEMALE Loc:Ingram [redacted] Provider: [redacted]

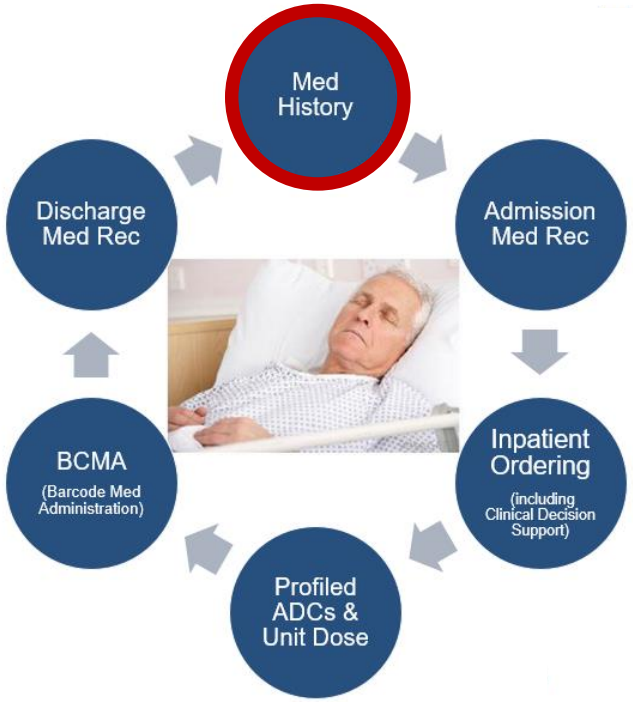
** Allergies ** [redacted] OVERNIGHT FIN: [redacted]

Add | Medication History: No Known Home Medications | Unable To Obtain Information | Use Last Compliance

Reconciliation Status: Meds History | Admission | Discharge

Document Medication by Hx

Order Name	Status	Details	Last Dose D...	Compliance Status
		Last Documented On 26/04/2017 16:35 [redacted]		
Home Medications				
amoxycillin-clavulanate (Augmentin Duo Forte 875 mg-125 mg oral tablet)	Documented	1 tab(s), PO, BD, tab, EA		Still taking, as prescribed
enoxaparin (Clexane 20 mg/0.2 mL injectable solution)	Documented	20 mg, subcut, evening, solution, syringe(s)		Still taking, as prescribed
ibuprofen (Brufen 400 mg oral tablet)	Documented	1 tab(s), PO, TDS, tab, Take with food, EA		Still taking, as prescribed
levonorgestrel-ethinyloestradiol (Levlen ED oral tablet (28 x 4))	Documented	1 tab(s), PO, DAILY, tab, pack(s)		Still taking, as prescribed
morphine (morphine sulfate 5 mg/mL injectable solution)	Documented	2.5-5mg, IV, 2 hrly (interval), PRN for Pain		Still taking, as prescribed
ondansetron (ondansetron 4 mg orally disintegrating tab)	Documented	1 tab(s), PO, TDS, tab-disint, PRN for Nausea/Vomiting, EA		Still taking, as prescribed
oxycodone-naloxone (Targin 5 mg-2.5 mg oral modified release tablet)	Documented	1 tab(s), PO, BD, tab-SR, EA		Still taking, as prescribed
oxycodone (Endone 5 mg oral tablet)	Documented	1 tab(s), PO, 4 hrly (interval), tab, PRN, EA		Still taking, as prescribed
paracetamol (Panamax 500 mg oral tablet)	Documented	2 tab(s), PO, 6 hrly (interval), tab, PRN, EA		Still taking, as prescribed
polyethylene glycol 3350 with electrolytes (Movicol oral powder for reconstitution (13.125g x 30))	Documented	1 EA, PO, BD, powder-recon, pack(s)		Still taking, as prescribed
pregabalin (Lyrica 75 mg oral capsule)	Documented	1 cap(s), PO, BD, cap, PRN for Pain, EA		Still taking, as prescribed
wheat dextrin (Benefiber Powder (containing wheat dextrin))	Documented	2 tsp, PO, TDS, powder, PRN for Constipation, pack(s)		Still taking, as prescribed



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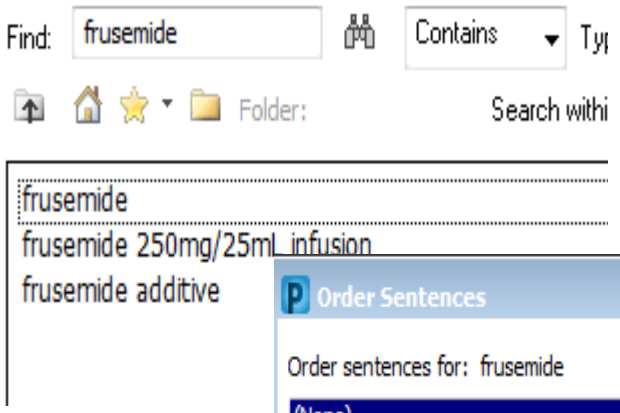
Admission Medication Reconciliation & Inpatient Ordering

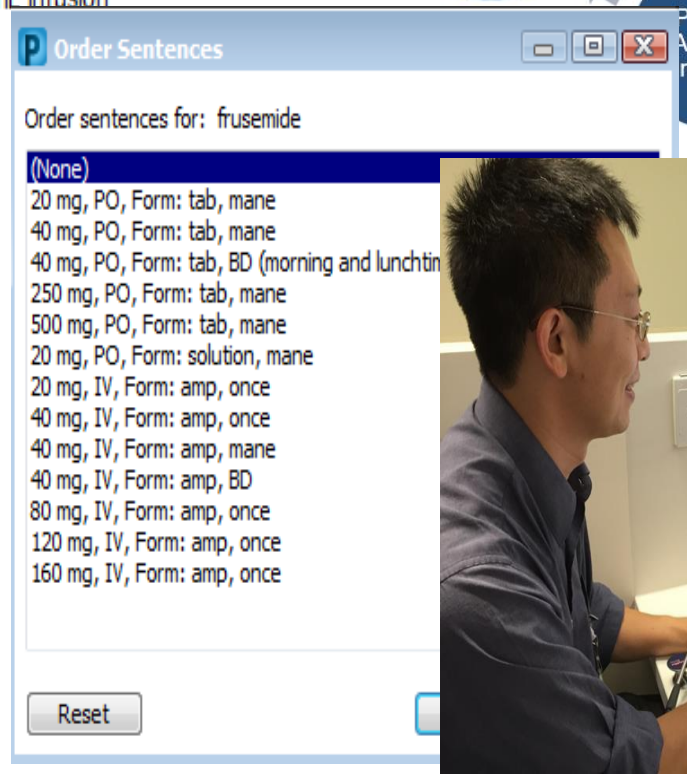
Computerised Physician Order Entry

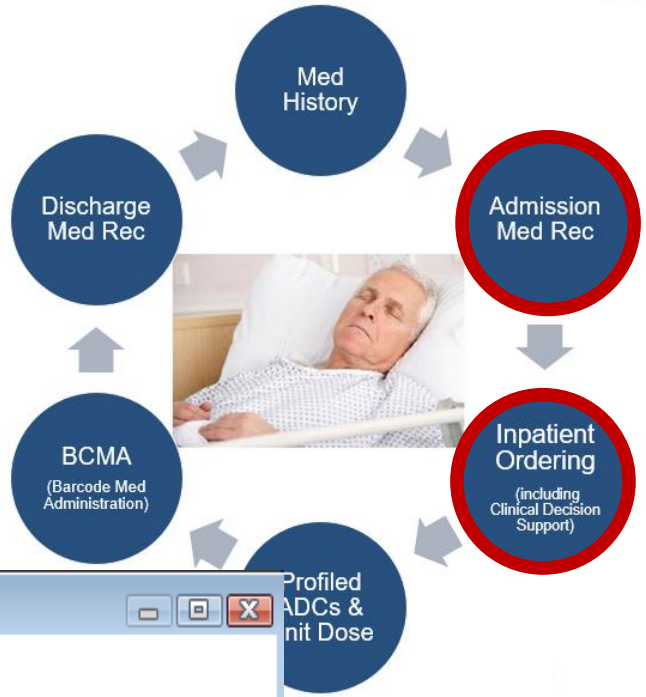
- Product Formulary
  - Unlimited in private hospital
- Medication Order Catalogue
- Medication Order Sentences

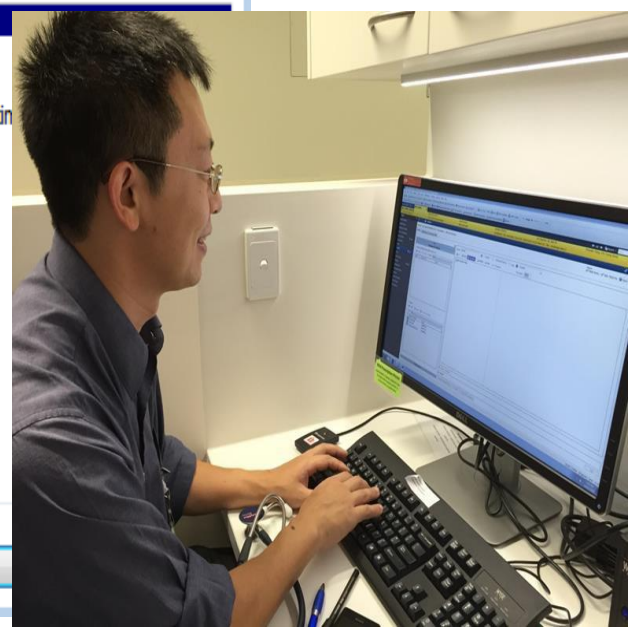
Build considerations include:

- Maximising conversion rates through medication reconciliationn.
  - Reduce selection error on conversion home medication → inpatient → discharge.
- Maximising auto product assignment (APA) rates to aid ADC profiling.
  - APA = drug item assigned to order for ADC/scanning.



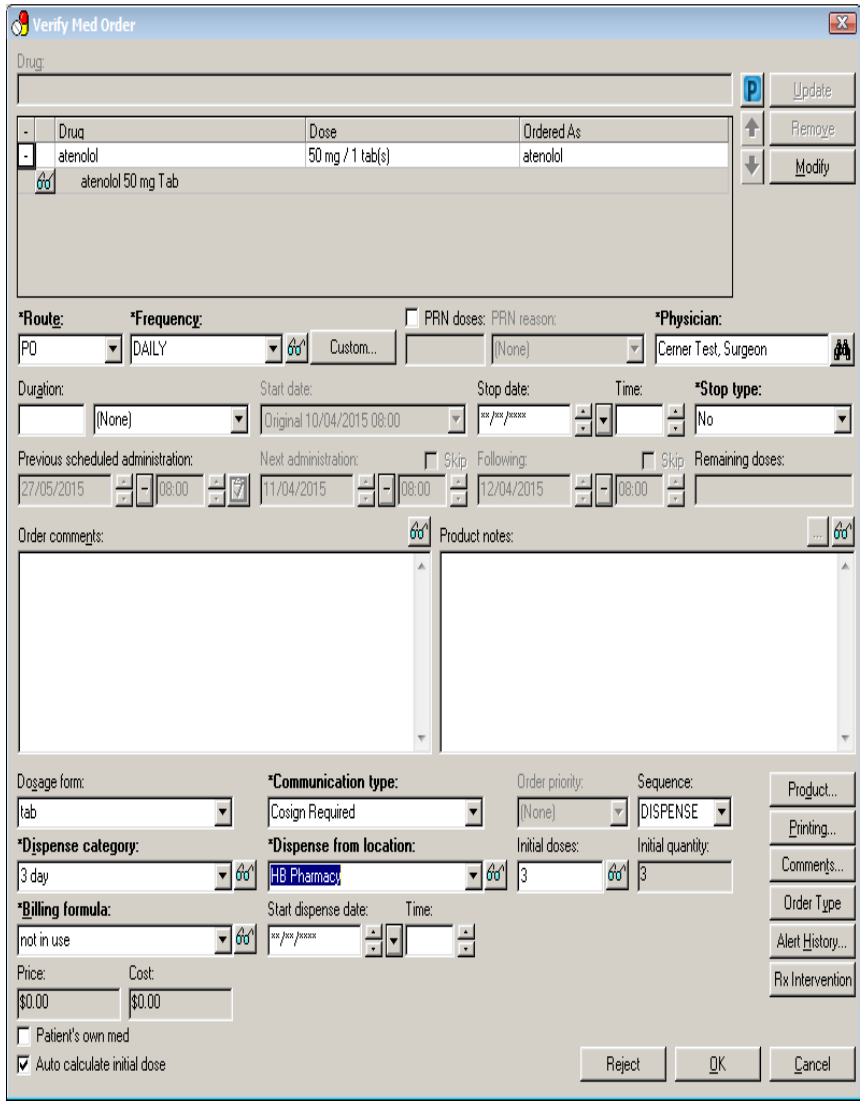


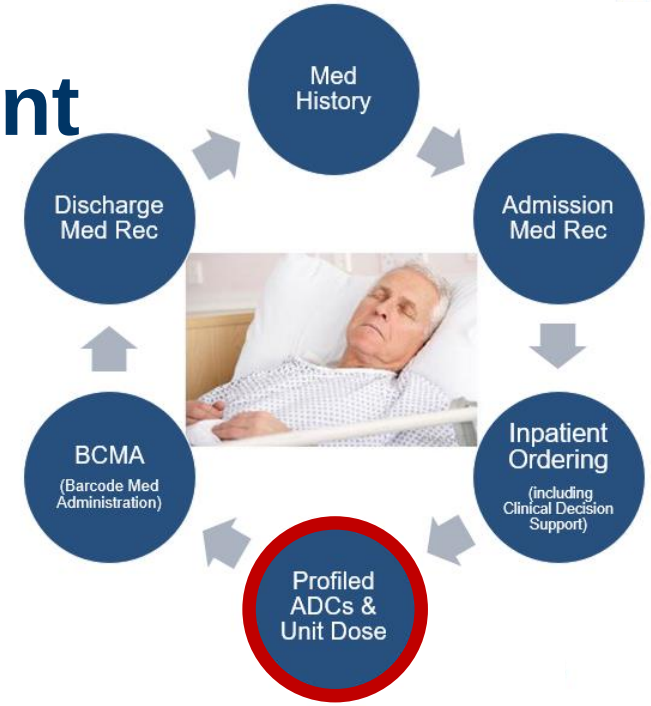




ST STEPHEN'S HOSPITAL

Pharmacist Verification of Inpatient Orders





Auto Product Assignment – the system will assign a product to the order based on built in variables.

Pharmacist verifies orders and assigns products where necessary.

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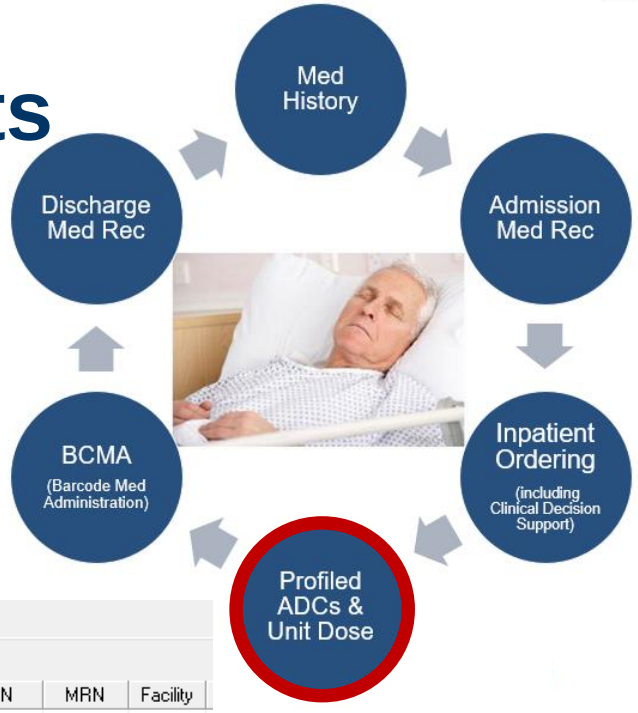
Technology Enabled Pharmacists



Pharmacy Multi-Patient Task List

Pharmacy Multi-Patient Task List

Departmental View, Assigned Tasks

Interventions | Referrals

Task retrieval completed

All Patients

[redacted]

Name	Location/Room/Bed	Task Status	Task Description	Order Details
[redacted]	Periop	Pending	Referral to Pharmacy - Discharge	02/12/15 08:34:00
	Ingram / 24 / Bed 24	Pending	Referral to Pharmacy	02/12/15 09:03:37, Discharge Prescription Notification, Routine
	Ingram / 24 / Bed 24	Pending	Referral to Pharmacy	02/12/15 09:03:37, Discharge Prescription Notification, Routine
	Ingram / 24 / Bed 24	Pending	Referral to Pharmacy	02/12/15 09:03:37, Discharge Prescription Notification, Routine
	Ingram / 24 / Bed 24	Pending	Referral to Pharmacy	02/12/15 09:03:38, Discharge Prescription Notification, Routine
	Alston / 27 / Bed 27	Pending	Referral to Pharmacy - Discharge	02/12/15 17:56:00
	Alston / 27 / Bed 27	Overdue	Referral to Pharmacy	01/12/15 18:04:06, Discharge Prescription Notification, Routine

Acute Profile | Ambulatory Profile | Results | Interventions | Monitors

Unverified Orders Monitor (UVOM)

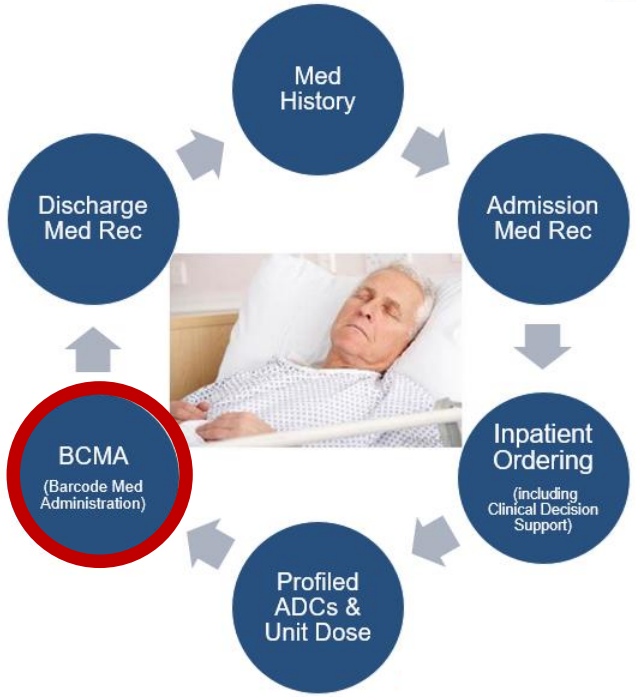
Unverified Orders | Unassigned Product Orders

Action	ORD	RX	Nurse Unit	Name	Order Sentence	Start Date/Time	Rx Priority	Last Unverified Action	FIN	MRN	Facility
			Ingram	WRITTENROTTEN, Josephine	amIODARONe + glucose 5% in wat...	18/06/2015 12:50		* Order	3856822	19781	SSH
			Alston	BOLAND, DebTest	amIODARONe 200 mg/ 1 tab(s) ta...	01/07/2015 20:00		* Order	3882230	19777	SSH
			McPhail	GOODBYE, The long	ampicillin 1 g vial IV 6 hrly (schedul...	31/08/2015 12:00		* Order	5000023	19870	SSH
			Ingram	FIREFLY, Rufus T	ampicillin 2 g vial IV pre-op	19/06/2015 10:00		* Order	3856819	19780	SSH
			Alston	BOLAND, Test	ampicillin 6 g 240 mL infusor IV co...	08/09/2015 13:03		* Order	5000044	19851	SSH
			Ingram	WRITTENROTTEN, Josephine	aspirin 100 mg/ 1 tab(s) tab PO DA...	04/06/2015 08:00		* Order	3856822	19781	SSH
			McPhail	INSPIRATION, Lacking	aspirin 300 mg oral effervescent ta...	25/08/2015 14:45		* Order	5000003	19858	SSH
			Alston	FLOWER, Rose	atenolol 25 mg/ 0.5 tab(s) tab PO ...	14/07/2015 15:18		* Order	3882041	19811	SSH
			Alston	SNOW, John	atenolol 25 mg/ 0.5 tab(s) tab PO ...	12/09/2015 08:00		* Order	5000021	19822	SSH
			Alston	MORGAN, Daisy	atenolol 50 mg/ 1 tab(s) tab PO BD	16/07/2015 20:00		* Order	3882037	19810	SSH
			McPhail	CERNER, Cardio-one	atenolol 50 mg/ 1 tab(s) tab PO D...	26/08/2015 08:00		* Order	5000004	19859	SSH
			McPhail	INSPIRATION, Lacking	atorvastatin 40 mg/ 1 tab(s) tab P...	26/08/2015 08:00		* Order	5000003	19858	SSH
			Alston	SNOW, John	atropine 2 mg/ 1.67 mL amp IV 5 ...	10/09/2015 09:04		* Order	5000021	19822	SSH
			McPhail	CERNER, Cardio-two	bisOPROLOl 2.5 mg/ 1 tab(s) tab ...	26/08/2015 08:00		* Order	5000005	19860	SSH
			Alston	LIEBKE, Wonder Woman	cephaLEXin 250 mg/ 1 cap(s) cap...	11/08/2015 18:00		* Order	3882227	19814	SSH
			Alston	SNOW, John	chloramphenicol 1% 1 application(...	10/09/2015 14:00		* Order	5000021	19822	SSH
			Alston	FLOWER, Rose	codeine 60 mg/ 2 tab(s) tab PO TDS	08/07/2015 09:26			3882041	19811	SSH
			Ingram	FIREFLY, Rufus T	compound Na lactate 1,000 mL b...	30/04/2015 09:33		* Discontinue	3856819	19780	SSH
			Ingram	FIREFLY, Rufus T	compound Na lactate 1,000 mL b...	28/04/2015 13:47		* Discontinue	3856819	19780	SSH
			Alston	SAVAGE, Ima	compound Na lactate 1,000 mL b...	30/07/2015 16:37			3882335	19839	SSH
			Ingram	CRACKERS, Animal	compound Na lactate 1,000 mL b...	19/08/2015 15:29		* Discontinue	3882280	19829	SSH
			Ingram	MAIGRET, Inspector	compound Na lactate 1,000 mL b...	14/07/2015 20:23		* Order	3882279	19828	SSH

gCare Health

ST STEPHEN'S HOSPITAL

Technology Enabled Nurses



CareCompass

CareCompass

100% 100%

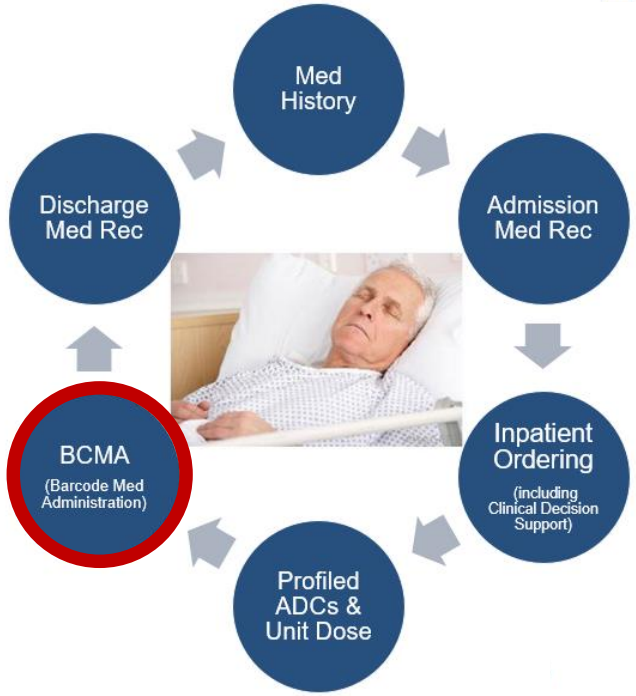
Patient List: St. Stephens Hospital | List Maintenance | Add Patient | Establish Relationships

Location	Patient	Visit	Care Team	QADDS	Activities
Alston					
04 - Bed 4	SNOW, John 33yrs | MALE | -- | No Known Allergies	-- 4d	UCH, Physician	--	
05 - Bed 5	BOLAND, Pca 38yrs | FEMALE | -- | Allergies	medical 2hrs	UCH, Physician	--	
07 - Bed 7	FARQUHAD, Davias 87yrs | MALE | -- | No Allergies Recorded	Regression Tesing 2hrs	UCH MBBS, Surgeon	--	
09 - Bed 9	JACKS, Cracker 35yrs | MALE | -- | No Allergies Recorded	regression testing 34min	UCH, Physician	--	
11 - Bed 12	SAVAGE, DCMed One 75yrs | FEMALE | -- | Allergies	-- 17hrs	UCH MBBS, Surgeon	--	
McPhail					
02 - Bed 2	TEDIOUS, Testing is 35yrs | FEMALE | End of Life Plan Docume... | Allergies	Testing 4d	UCH, Physician	2	
03 - Bed 3	TESTING, Baby 5yrs | MALE | -- | No Allergies Recorded	testing 3d	UCH, Physician	--	
08 - Bed 9	RAMJET, Rachel Rachmananov 41yrs | FEMALE | -- | No Allergies Recorded	-- 4d	Burness, Robert Charles Chang Business 41238532	--	
Periop					
--	CERNER, certtest 45yrs | MALE | -- | No Allergies Recorded	-- 4d	Ahmad, Nazim Ali Business (074)124-4815	--	
--	WOLF, Amelda 66yrs | FEMALE | -- | No Relationship Exists	--	--	--	

Activity Timeline

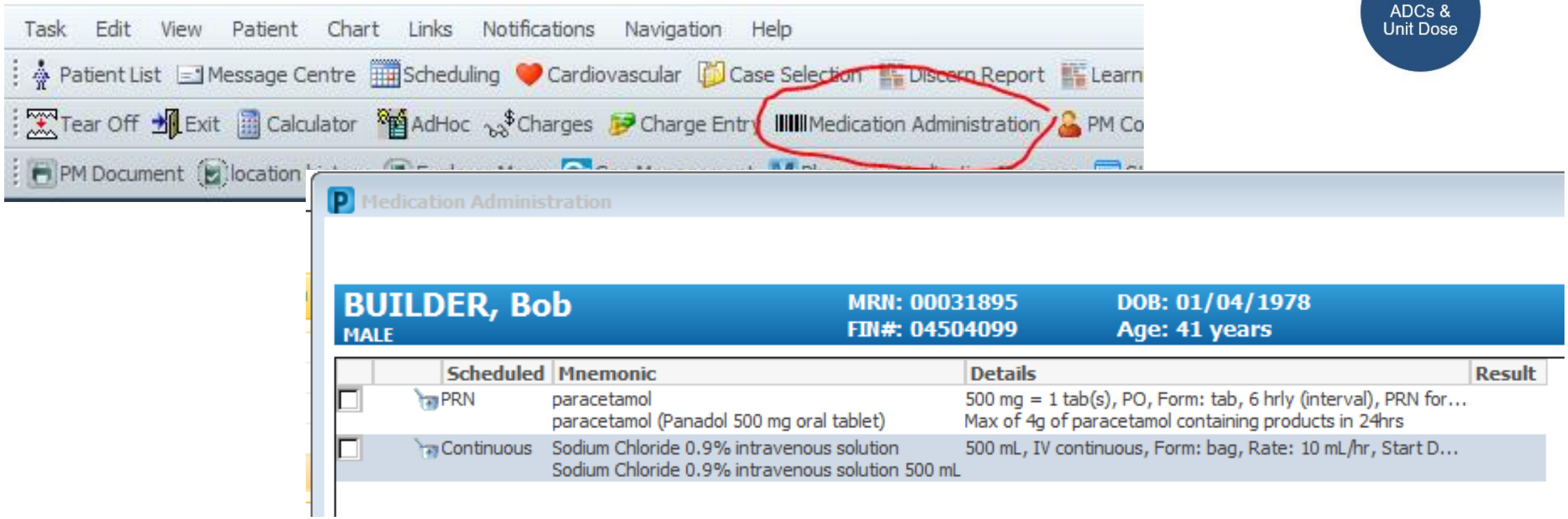
ST STEPHEN'S HOSPITAL

Technology Enabled Nurses



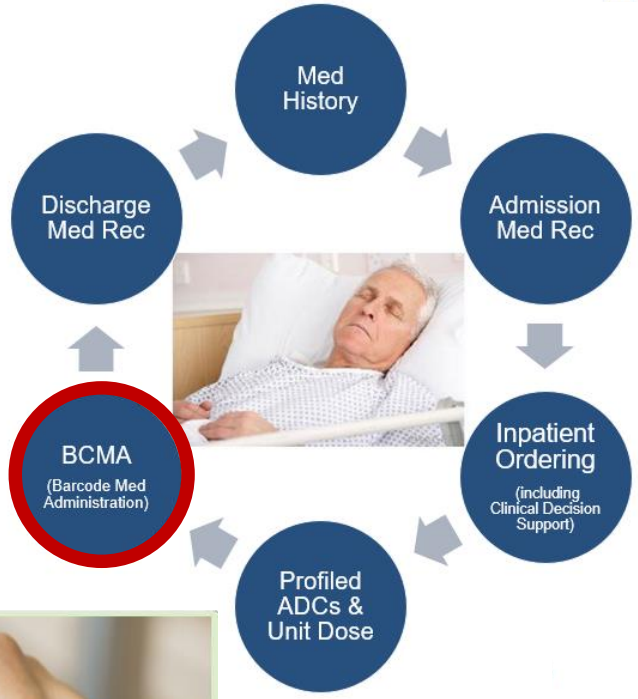
Medication Administration Wizard (MAW)

- 2 hour window (adjustable) of medications due to be administered.
- Scanning & documentation



ST STEPHEN'S HOSPITAL

Technology Enabled Nurses



BCMA – at the bedside.

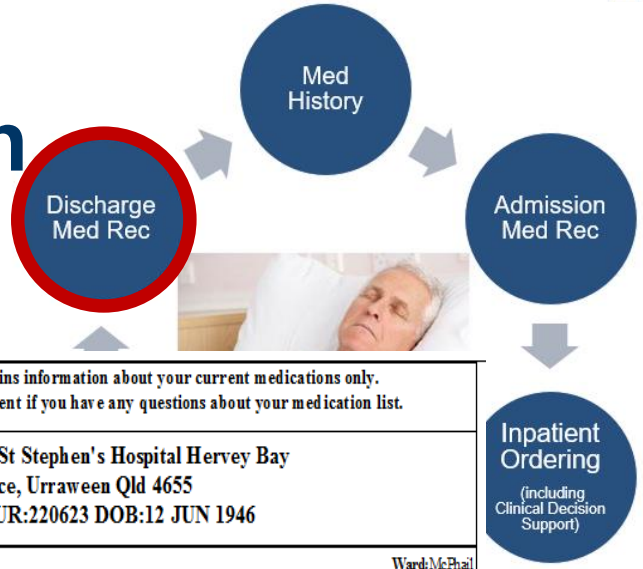
Scan patient wristband

Scan medication

Administer medication

ST STEPHEN'S HOSPITAL

Discharge Medication Reconciliation and Medication List



Order Reconciliation: Discharge - CERNER, Omnicelly

CERNER, Omnicelly DOB:12/06/1946 Age:68 years Gender:MALE Loc:McPhail; 03; Bed 3 Provider:Cerner Test, Surgeon
** Allergies ** MRN:00220623 OVERNIGHT FIN: 33001540 [Admit Dt: 27/05/2015 10:05 Disch Dt: <No - Disc...

Add | Manage Plans | Print

Status: Meds History | Adm. Meds Rec | Disch. Meds Rec

Orders Prior to Reconciliation: Order Name/Details	Status	Orders After Reconciliation: Order Name/Details	Status
Home Medications			
paracetamol (paracetamol 500 mg oral tablet) *1 tab(s), PO, 4 hrly (scheduled), 100 EA, PRN: Pain/Fever*	Prescribed		
prednisone (prednisone 25 mg oral tablet) *1 tab(s), PO, DAILY*	Documented		
Continued Home Medications			
atenolol (atenolol 50 mg oral tablet) *1 tab(s), PO, DAILY, EA*	Documented		
atenolol *50 mg, PO, DAILY*	Ordered		
frusemide (frusemide 40 mg oral tablet) *1 tab(s), PO, mane*	Documented		
frusemide *40 mg, PO, mane*	Ordered		
irbesartan-hydrochlorothiazide (irbesartan-hydrochlorothiazide 150 mg-12.5 mg oral... *1 tab(s), PO, DAILY*	Documented		
irbesartan-hydrochlorothiazide (irbesartan-hydrochlorothiazide 150 mg-12.5 mg oral... *1 tab(s), PO, DAILY*	Ordered		
thyroxine sodium (thyroxine sodium 100 mcg (0.1 mg) oral tablet) *1 tab(s), PO, DAILY*	Documented		
thyroxine sodium *100 microgram(s), PO, DAILY*	Ordered		
tramadol (tramadol 50 mg oral capsule) *1 cap(s), PO, 4 hrly (scheduled), PRN: Pain*	Documented		
tramadol (tramadol 50 mg oral capsule) *50 mg, 1 cap(s), PO, 4 hrly (scheduled), PRN: Pain*	Ordered		
Medications			
docusate-senna (Coloxyl with Senna 50 mg-8 mg oral tablet) *1 tab(s), PO, BD*	Ordered		
simvastatin *20 mg, PO, nocte*	Ordered		

This discharge medication summary contains information about your current medications only.
Please contact the hospital pharmacy department if you have any questions about your medication list.

Pharmacy Department - St Stephen's Hospital Hervey Bay
1 Medical Place, Urraween Qld 4655
Omnicelly CERNER UR:220623 DOB:12 JUN 1946

Discharge medication record: 27 MAY 2015 **Ward:** McPhail

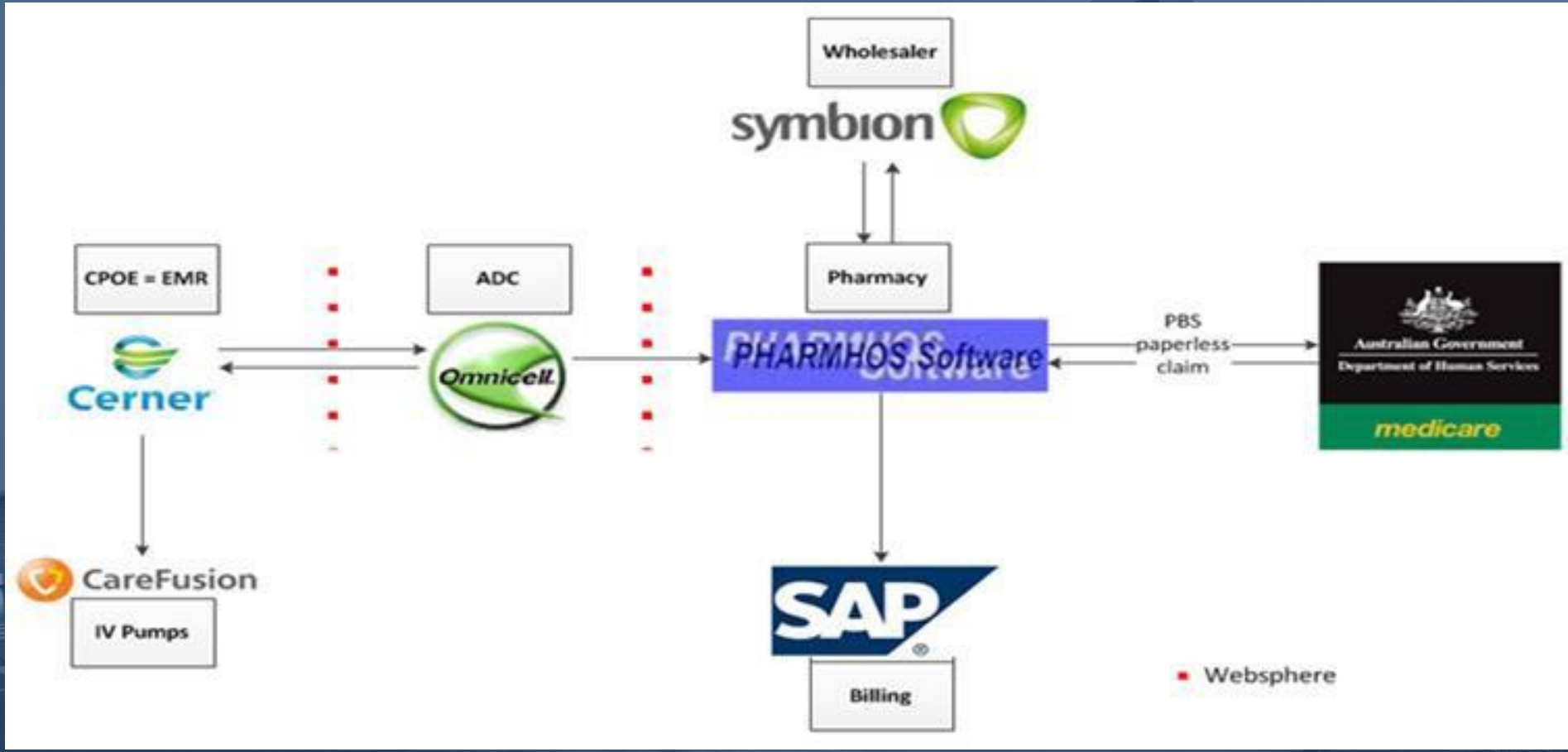
If you have any questions, please phone (07) 4510 0000 to speak with a pharmacist.

Medicine name	Commonly used for	Directions	Daily Timetable / Instructions: Morning	Noon	Evening	Night	Special Additional instructions	Duration	Dispense Qty Requested	Status
simvastatin 20 mg oral tablet		Take ONE tab(s) oral once a day (at bedtime)				1				New
atenolol 50 mg oral tablet		Take ONE tab(s) oral ONCE daily	1							Unchanged
frusemide 40 mg oral tablet		Take ONE tab(s) oral in the morning	1							Unchanged
irbesartan-hydrochlorothiazide 150 mg-12.5 mg oral tablet		Take ONE tab(s) oral ONCE daily	1							Unchanged
paracetamol 500 mg oral tablet		Take ONE tab(s) oral every FOUR hours when required for Pain/Fever								Unchanged
thyroxine sodium 100 mcg (0.1 mg) oral tablet		Take ONE tab(s) oral ONCE daily	1							Unchanged
tramadol 50 mg oral capsule		Take ONE cap oral every FOUR hours when required for Pain								Unchanged

Allergies and adverse drug reactions:

Date	Medicine / causal agent	Reaction

Pharmacy Interfaces at St Stephen's Hospital



ST STEPHEN'S HOSPITAL

Benefits of CLEMM

- ✓ Time saved with automatic restocks
- ✓ Security – fingerprint access
- ✓ Traceability easy generated discrepancy reports
- ✓ Expiry tracking – less shrinkage
- ✓ Flexible stock control – PARs & Reorder levels
- ✓ No running out of imprest stock
- ✓ On call pharmacists – remote access

Medication Reporting in the Digital Environment

paracetamol 500 mg oral	1 000 mg 2 tab(s) PO tab	Not Given: Absent
Naropin 0.2% injectable	40 mg 20 mL regional ne	Not Given: Other (see comment)
paracetamol 500 mg oral	2 cap(s) PO cap QID 04/	Not Given: Other (see comment)
paracetamol 500 mg oral	1 000 mg 2 tab(s) PO tab	Not Given: Other (see comment)
insulin sliding scale (asp	SLIDING SCALE subcut c	Not Given: Medication Not Clinically Requ
insulin sliding scale (asp	SLIDING SCALE subcut c	Not Given: Medication Not Clinically Requ
insulin sliding scale (asp	SLIDING SCALE subcut c	Not Given: Other (see comment)
insulin sliding scale (asp	SLIDING SCALE subcut c	Not Given: Other (see comment)
Coloxyl with Senna 50 m	2 tab(s) PO tab BD 08/0	Not Given: Refused
Movicol sachet	2 EA PO powder-recon	Not Given: Other (see comment)pt wants
Movicol sachet	2 EA PO powder-recon	Not Given: Refused
Movicol sachet	2 EA PO powder-recon	Not Given: Refused
paracetamol 1000 mg/10	1 g 100 mL IV 6 hrly (sch	Not Given: Other (see comment)
Naropin 0.2% injectable	40 mg 20 mL regional ne	Not Given: Other (see comment)
paracetamol 1000 mg/10	1 g 100 mL IV 6 hrly (sch	Not Given: Medication Not Clinically Requ
paracetamol 1000 mg/10	1 g 100 mL IV 6 hrly (sch	Not Given: Medication Not Clinically Requ
paracetamol 500 mg oral	1 000 mg 2 tab(s) PO tab	Not Given: Medication Not Clinically Requ
aciclovir 5% topical crea	1 application(s) topical	Not Given: Other (see comment)
Keflex	500 mg 1 cap(s) PO 6 hrl	Not Given: Other (see comment)
paracetamol 1000 mg/10	1 g 100 mL IV 6 hrly (sch	Not Given: Medication Not Clinically Requ
paracetamol 1000 mg/10	1 g 100 mL IV 6 hrly (sch	Not Given: Medication Not Clinically Requ
paracetamol 1000 mg/10	1 g 100 mL IV 6 hrly (sch	Not Given: Other (see comment)
Blackmores CoQ10	150 mg 2 cap(s) PO noct	Not Given: Refused
paracetamol 1000 mg/10	1 g 100 mL IV 6 hrly (sch	Not Given: Other (see comment)
paracetamol 1000 mg/10	1 g 100 mL IV 6 hrly (sch	Not Given: Medication Not Clinically Requ
Movicol sachet	2 EA PO powder-recon	Not Given: Refused
Movicol sachet	2 EA PO powder-recon	Not Given: Refused
Movicol sachet	2 EA PO powder-recon	Not Given: Refused
Movicol sachet	2 EA PO powder-recon	Not Given: Refused

EMR = transparency & facts

True representation of medication incidents vs reliance on reporting culture

- Meaningful use of data to improve patient safety and workplace efficiencies
- Reporting improves accuracy of data recorded
- Transparency of reporting
- Drives training & system improvement

ST STEPHEN'S HOSPITAL

Value Derived.

Patient Safety and Quality Results.

Proudly part of UnitingCare

- ✓ Reliable data
- ✓ Medication error investigation immediately in conjunction with ADC and MAR
- ✓ Medication error prevention

	Examples
Wrong Drug / Wrong Patient	• Patient prescribed Sinemet 250/25mg tabs – Madopar Rapid 50/12.5mg scanned • Patient prescribed candesartan 8mg tabs – candesartan/hct 16/12.5mg tabs scanned • Patient prescribed temazepam 10mg – diazepam 2mg scanned • **Warfarin scanned – patient not prescribed** • Patient prescribed ramipril 10mg – enalapril scanned • Gabapentin scanned – not prescribed for that patient • Prednisone scanned – not prescribed for that patient
Wrong Dose	• Seretide 250/25 MDI prescribed – Seretide 250/50 Accuhaler scanned • Symbicort Rapihaler 100/3 prescribed – Symbicort 400/12 Turbuhaler scanned • Magnesium 500mg tabs prescribed – Magnesium 750mg scanned

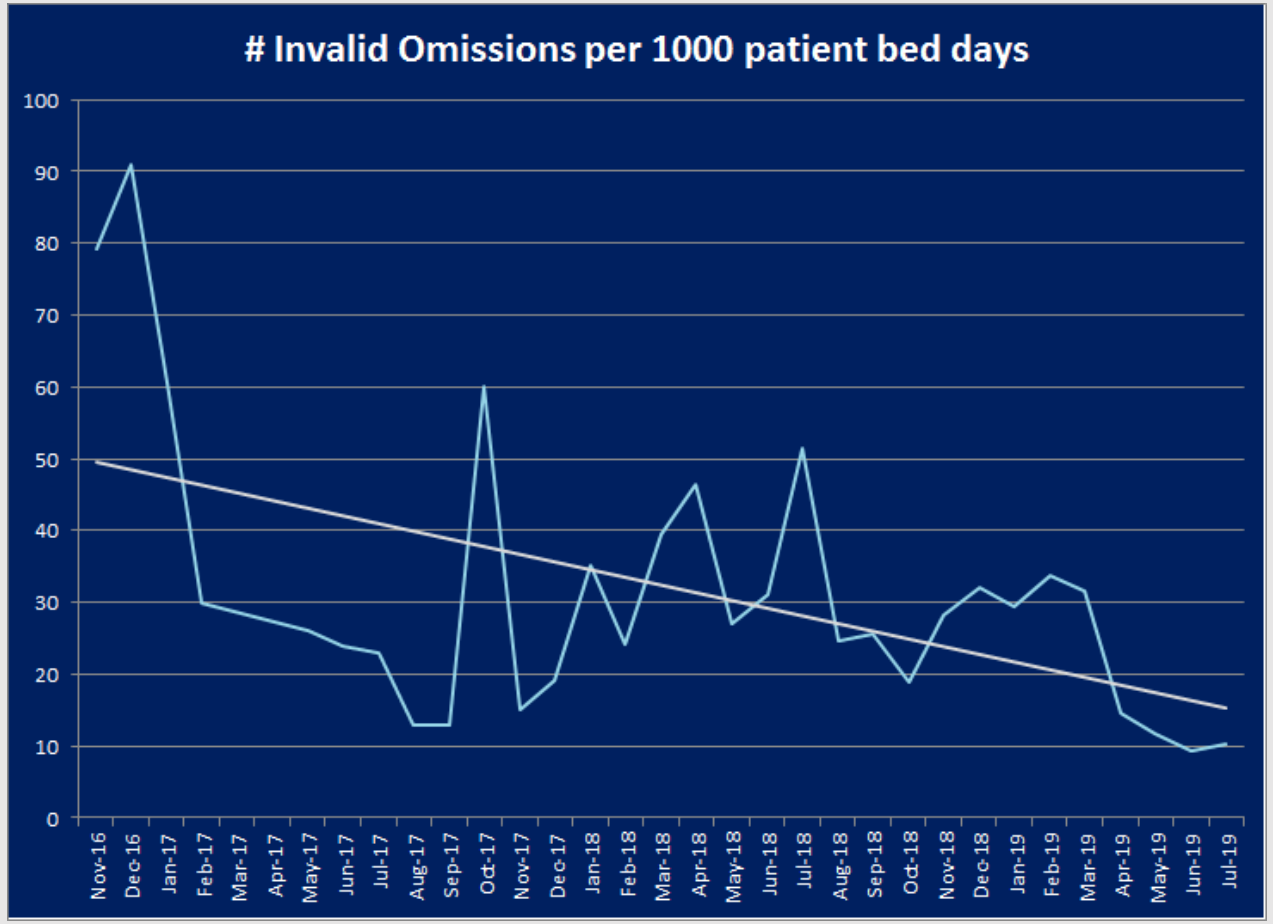
ST STEPHEN'S HOSPITAL

Reducing Medication Administration Errors: Omissions

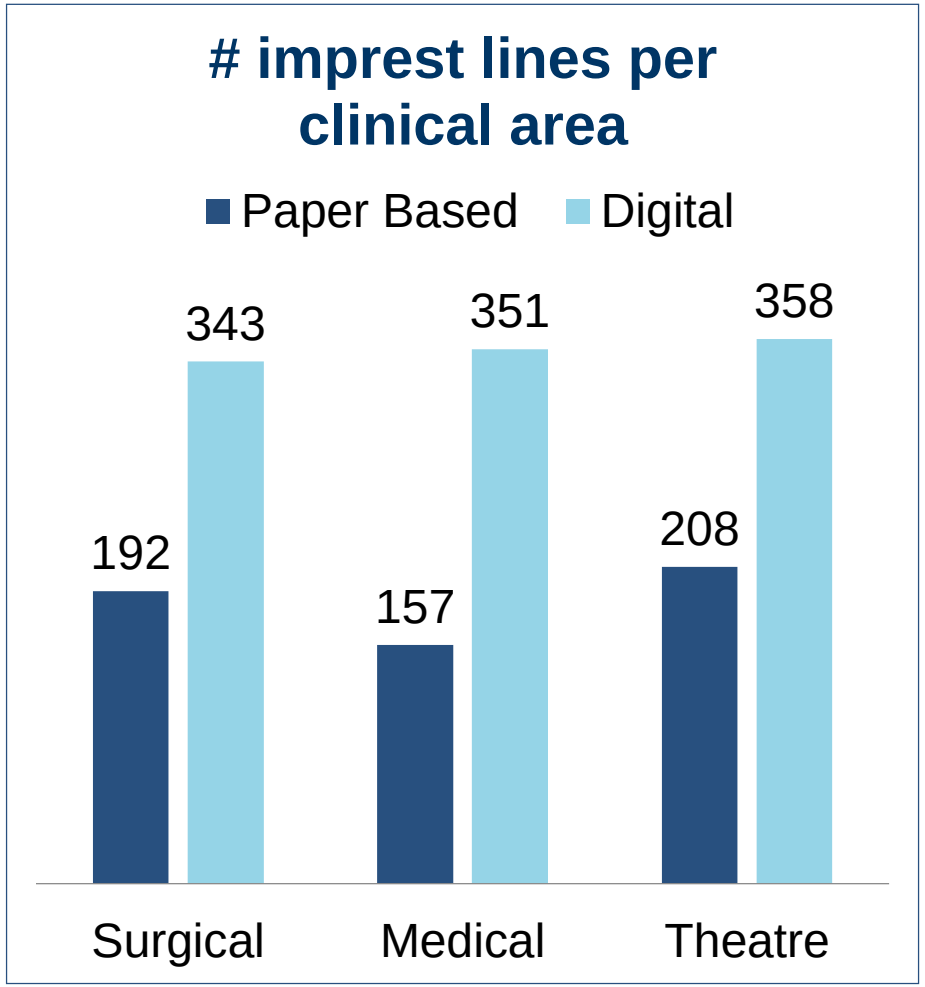
Proudly part of UnitingCare

What is an Omission?

- Report on med admin tasks documented as "Not Done" or "Not Given".
- Reasons are clinically evaluated as either valid or invalid. Invalid Omissions included in monthly reports.



Cost Avoidance and Clinical Efficiencies



69% reduction in imprest stock value

189% increase in # imprest lines

accessibility of imprest lines

Patient Safety and Clinical Efficiencies

Less than 6 minutes for Day Surgery discharge medication preparation and dispatch.

35% reduction in time to prepare complex medical patient discharge med list.

47% Reduction in administration errors

Barcode scanning functionality reduces medication administration errors at the bedside where the incorrect drug, patient, dose or route has been administered. This has shown a significant reductionin 'near misses' associated with medication administration errors at the bedside.
Of those errors, approx. 1% has the potential to lead to an adverse drug event.

Reduction in critical omission errors (relative) **81%**

Medication omissions without a valid reason is a leading cause of adverse drug events that can cause significant harm to a patient.

ST STEPHEN'S HOSPITAL

Digital Pharmacy ≠ Less work

Pharmacy Workflows: Digital vs Paper

	Digital	Paper
Med History	●	●
Med Rec	●	●
Chart Review	●	●
Chemo Protocol Review	●	●
Clinical Med Order Review	●	●
TDM	●	●
Pathology Review	●	●
Drug Information	●	●
ADR management	●	●
Staff Education	●	●
Discharge dispensing	●	●
Discharge Med List /IMAR	●	●
Patient Counselling & Education	●	●

	Digital	Paper
Med Dispensing and Distribution	●	●
Chemo Ordering	●	●
Imprest management	●	●
PBS claim management	●	●
Owing Script Management	●	●
CSM Management	●	
Unit Dose Packaging	●	
Barcode maintenance	●	
Controlled Drug discrepancies	●	
eHealth support (med mgmt.)	●	
Logging eHealth issues	●	
ADC alerts	●	

ST STEPHEN'S HOSPITAL

Lessons Learnt.

- ✓ Change in traditional workflows for pharmacy
- ✓ Longer orientation & on-boarding processes
- ✓ Machines and maintenance
- ✓ Barcode maintenance
- ✓ Increase stock: UDP and bulk
- ✓ Processing Pharmaceutical Benefits Scheme claiming
- ✓ Budget vs efficiency
- ✓ Unit Dose Packaging Workload
- ✓ Task oriented vs. patient oriented nursing
- ✓ Slow uptake of scanning medication workflow
- ✓ Frustrations and ADCs - jams

Implementation & Challenges

Clinical Nurse Manager & Ward Ownership

- ☑ Benchmarking per user
- ☑ Benchmarking per ward
- ☑ Traffic light reports
- ☑ Competition and positive reinforcement
- ☑ Identify opportunities for targeted training
- ☑ Nurses reporting to eHealth onsite to investigate builds

- Real time reporting of scanning failures to pharmacy & eHealth to investigate build issues & continuously improve.
- Build Changes required:
  - IV product barcodes built
  - Manufacturer barcodes built system
- In-services provided by pharmacy, eHealth & nurse leadership focus on patient safety

Optimisation and Continual Improvement

- Clinical informaticist on-site; face to face
- Identifying superusers
- Barcode scanning reports & in-services
- CPOE and continual doctor training
- Encouraging all users to log problems
  - Pharmacy, Nursing, Doctor workflows & Non-Clinical services

ST STEPHEN'S
HOSPITAL

In Summary

Local problem: Decrease variance in the medication process with device integration, closed loop electronic medication management, and unit dose medication cabinets.

Design and Implementation: The implementation of a barcode medication administration process (BCMA) helped to decrease Adverse Drug Events (ADEs) which are often the leading cause of harm to hospitalised patients. St Stephen's leadership tasked their teams with developing a clinically driven, technology supported, medication safety process.

Healthcare IT: A key factor and workflow change was the implementation of Computerised Practitioner Order Entry (CPOE). In the CPOE workflow, errors are intercepted at the time of order entry with Clinical Decision Support (CDS). The integration between the CPOE, pharmacy systems, eMAR, barcode system, and medication dispensing cabinets was crucial to success.

Value derived: The improved workflows in moving from the paper environment to the digital environment enabled St Stephens to reduce the variance in their medication process. With an increase in CPOE adoption and the utilisation of BCMA, St Stephens has realised a significant decrease in ADEs and medication omissions.

ST STEPHEN'S HOSPITAL

Literature

Author	Title	Year	Journal	Vol	Issue	Pages	Country
Melbourne Health	Electronic Medical Record Business Case	2013	Australian Hospital			30-31	Australia
Bates, D.W., Boyle, D.L., Vander Vliet, M.B., Schneider, J. & Leape, L.	Relationship between Medication Errors and Adverse Drug Events	1995	Journal of General Internal Medicine	10		199-205	USA
Kadmon et al.	Evaluating the Current State of Patient Safety and Health IT	2011	Health IT and Patient Safety: Building Safer Systems for Better Care.				USA

Thank you.

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