Choosing Wisely

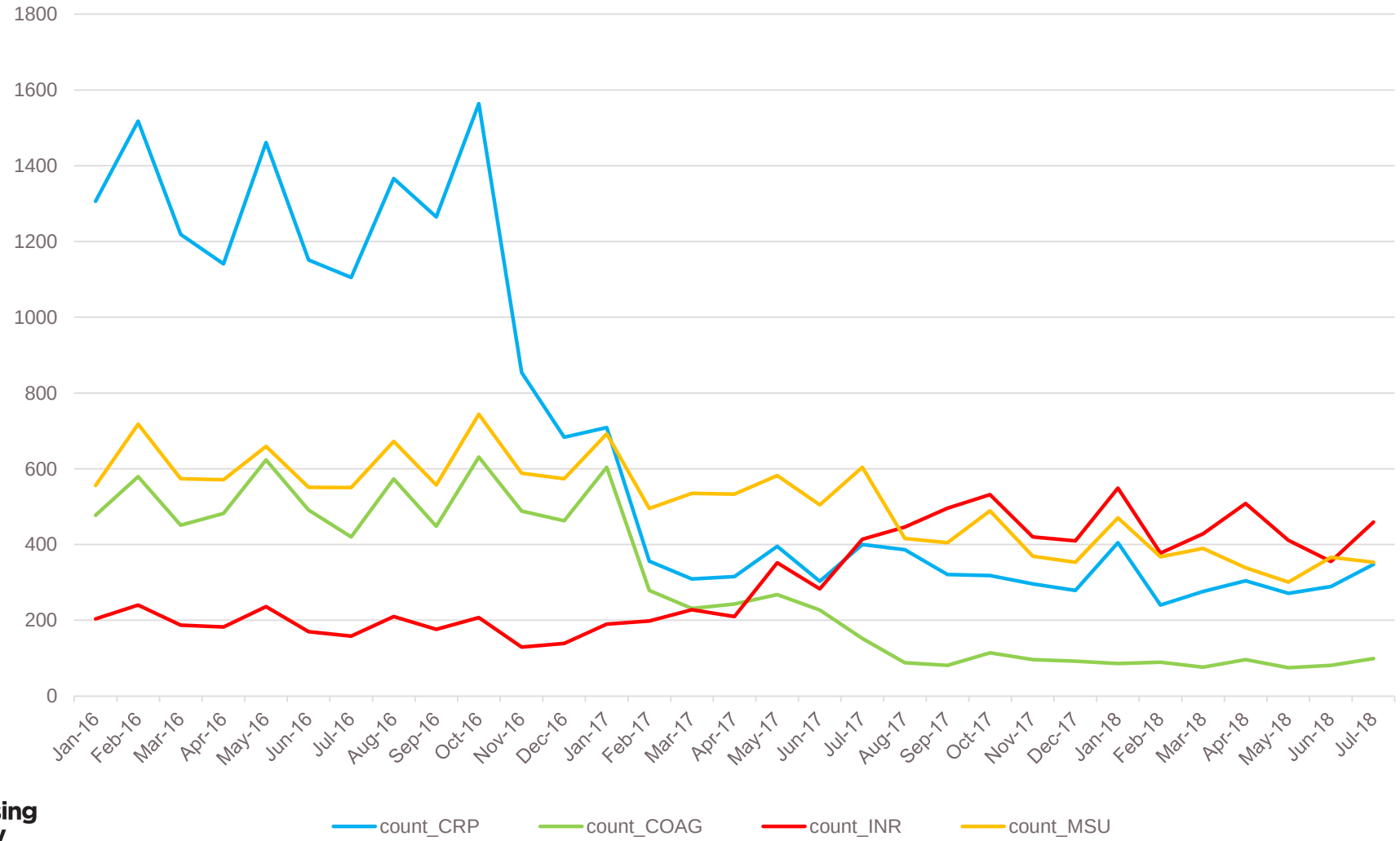
ACEM ASM
Perth
November 2018

Austin HEALTH

ED Activities at Austin Health

Austin HEALTH

”Routine” Tests in ED



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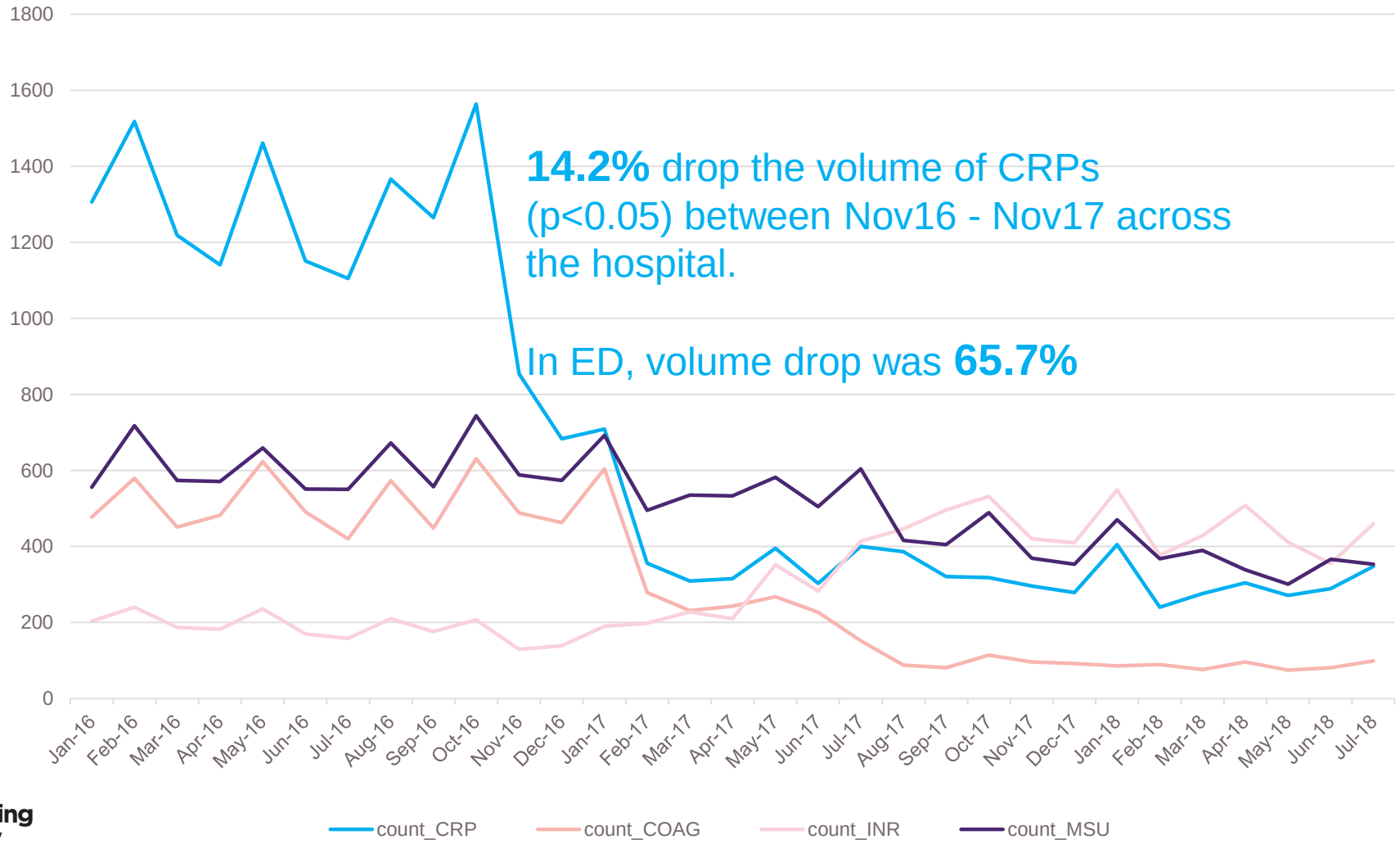
“Routine” Tests in ED



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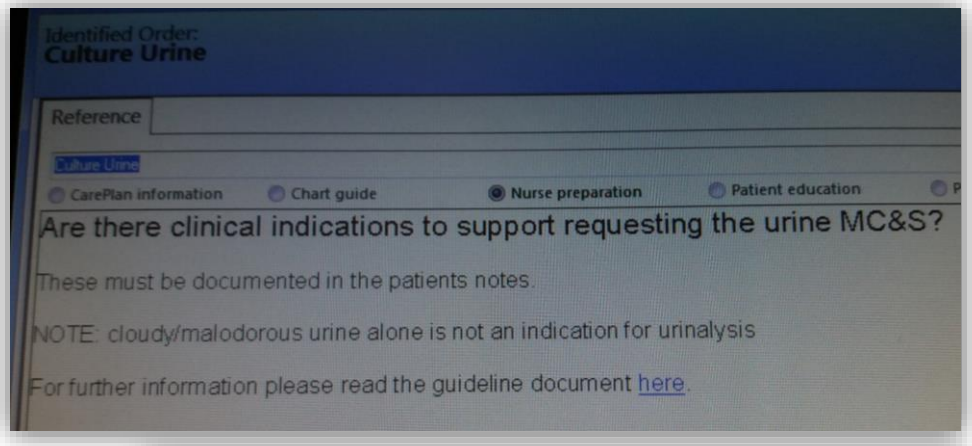
Urine Cultures

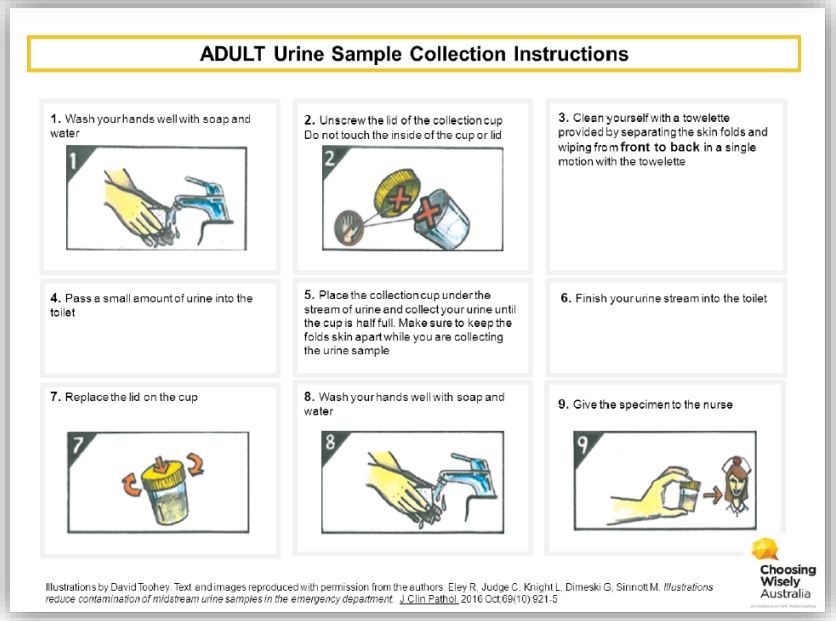
- Multi-faceted behaviour change strategy implemented across the hospital:

  Audit & Feedback + **Guideline development** + **Education** + **IT changes**

- Particular focus and attention paid for ED Department due to high volumes of orders and high rates of sample contamination

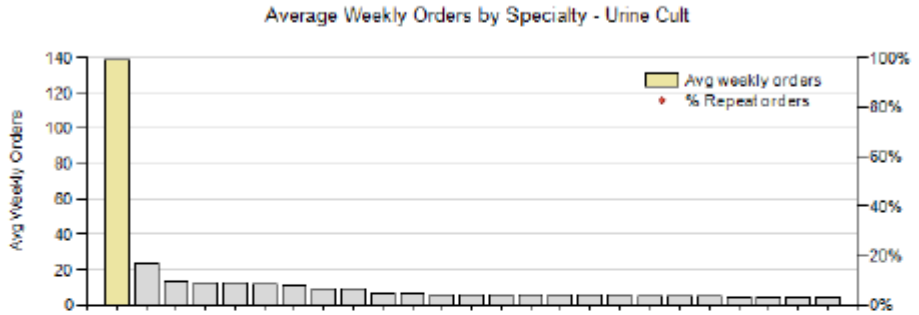
Urine Cultures



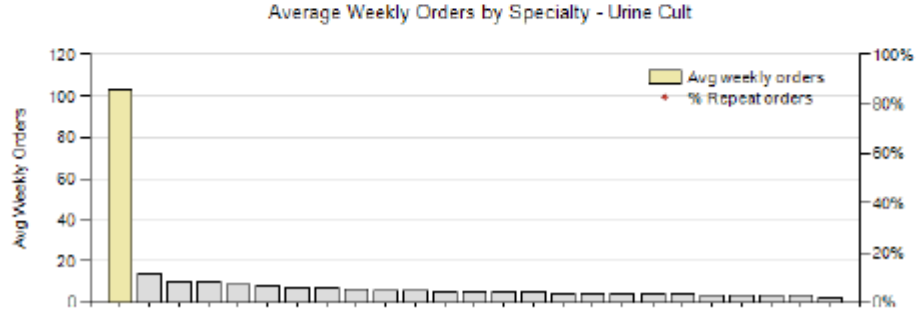


Urine Cultures - Results

Pre-intervention: 1/3/16 – 1/3/17



Post-intervention: 1/8/17 – 1/10/17



*This data reflect electronic orders only

	Urine Cultures	
	Pre-intervention	Post-intervention
Volume of tests across whole hospital (weekly average)	340.77	250
Volume of tests in ED (weekly average)	142.15	87.69
Volume of tests per patient whole hospital	0.09	0.06
Volume of tests per patient in ED	0.08	0.04

Coagulation Studies

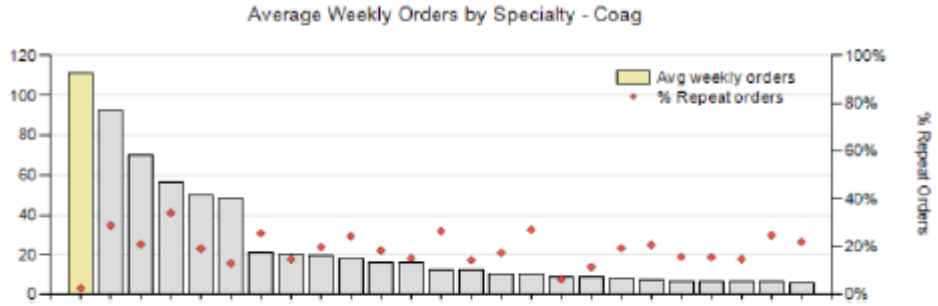
- Multi-faceted behaviour change strategy implemented across the hospital:

  Audit & Feedback + **Guideline development** + **Education** + **IT changes**

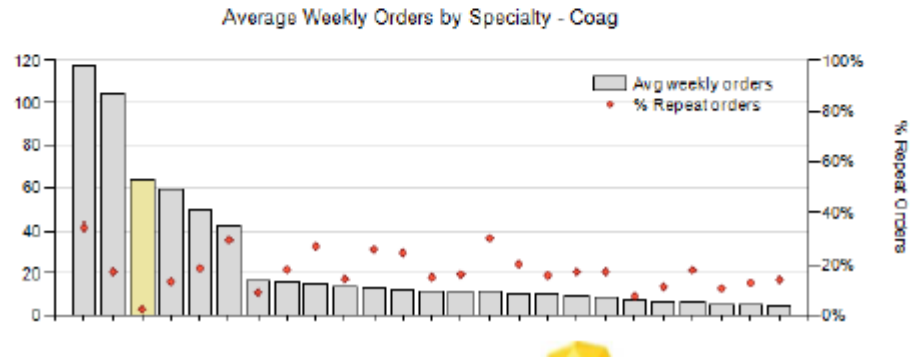
- Particular focus and attention paid for ED Department due to high volumes of orders

Coagulation Studies - Results

Pre-intervention: 1/12/15 – 1/12/16

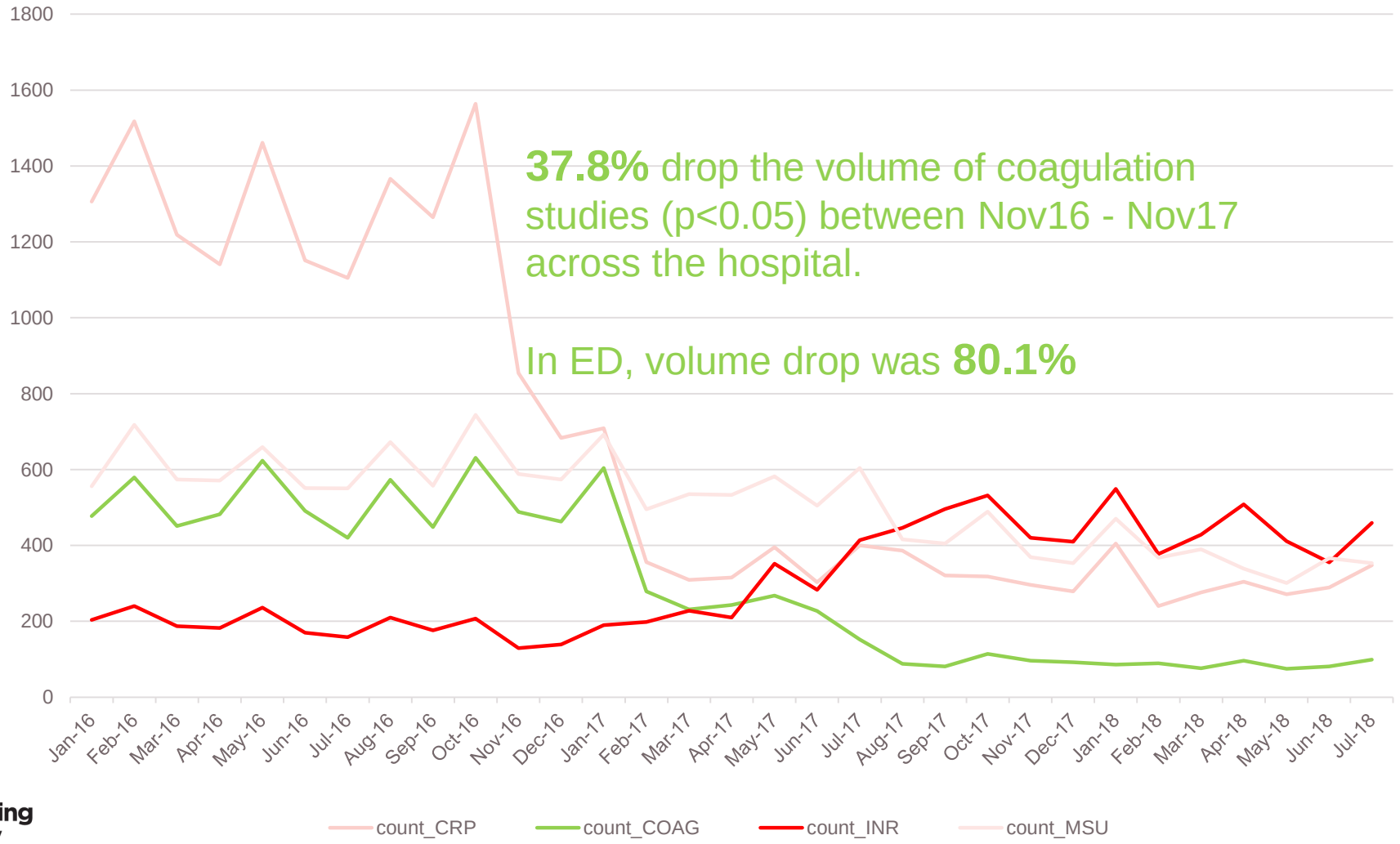


Post-intervention: 1/4/17– 1/6/17



	Coags	
	Pre-intervention	Post-intervention
Volume of tests across whole hospital (weekly average)	686.18	552.22
Volume of tests in ED (weekly average)	119.11	49.39
Volume of tests per patient whole hospital	0.27	0.16
Volume of tests per patient in ED	0.07	0.01

“Routine Tests” in ED



37.8% drop the volume of coagulation studies ($p<0.05$) between Nov16 - Nov17 across the hospital.

In ED, volume drop was **80.1%**

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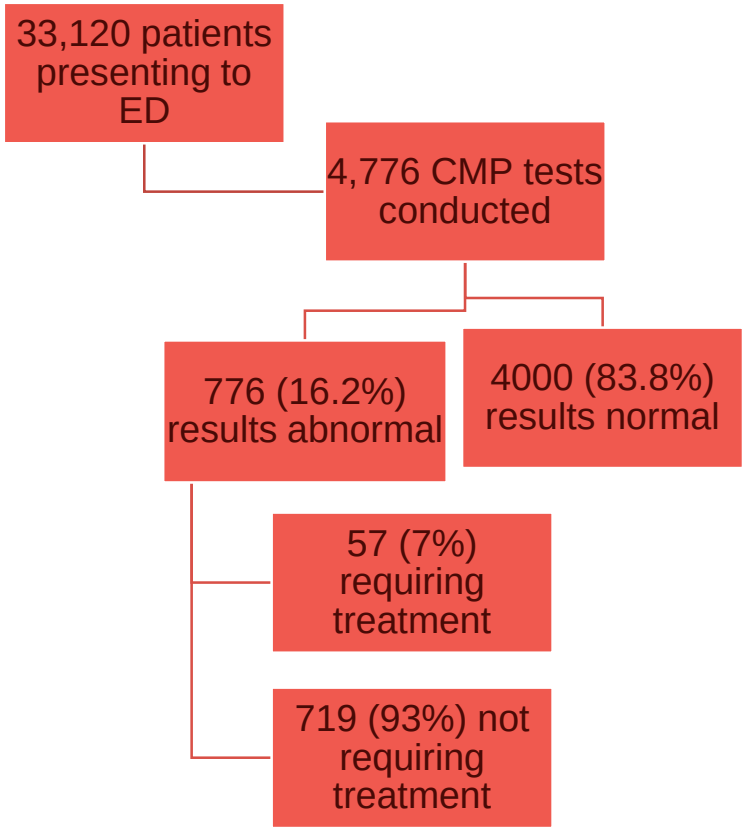
CMP Testing



Between Jan 1 and Jun 30 2017:

- 5.2 % of ED patients investigated for **CMP** abnormalities
  - *Only 1.2% require treatment*
- 3.4% (49) of patients treated with Magnesium despite normal levels
- Further regression analyses to be conducted to determine patients at risk of abnormal levels

Renal Colic

- Previous audits in the Emergency Department demonstrated a slow time to analgesia for renal colic presentation.

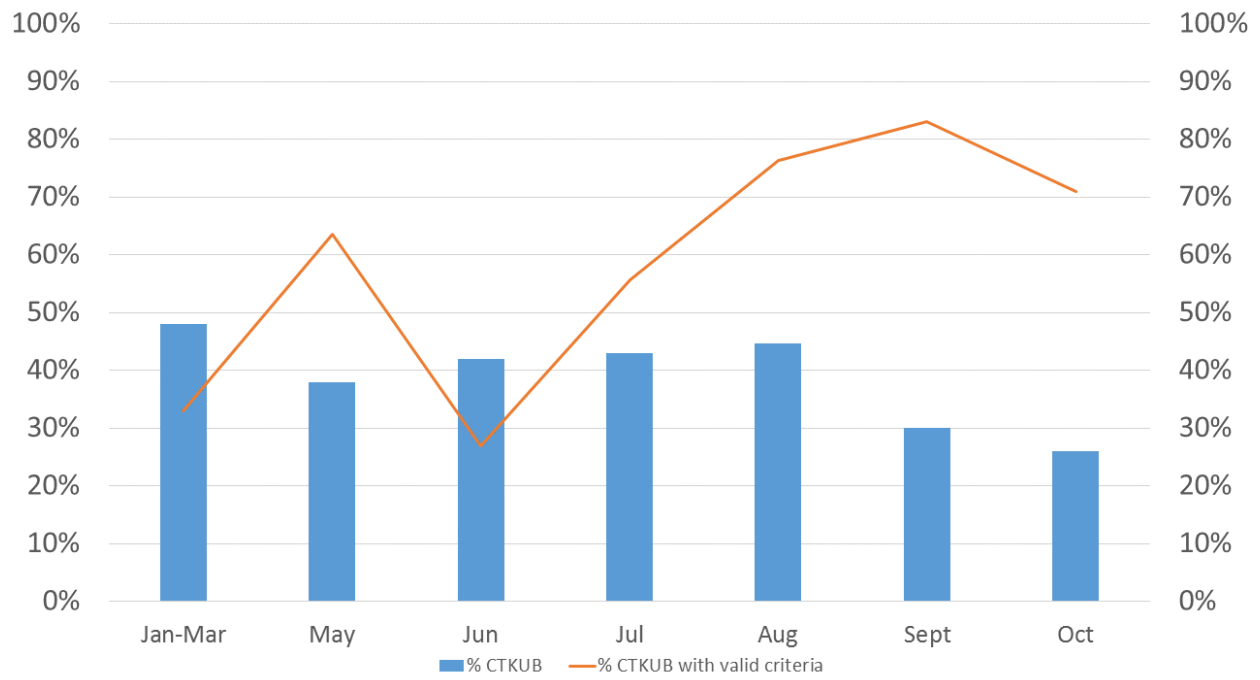
- An evidence-based care improvement project to improve the patient experience for patients presenting with renal colic was implemented

- Project activities included
  - Education sessions
  - Posters
  - Ongoing staff feedback
  - Local guideline amendments

Renal Colic - Results

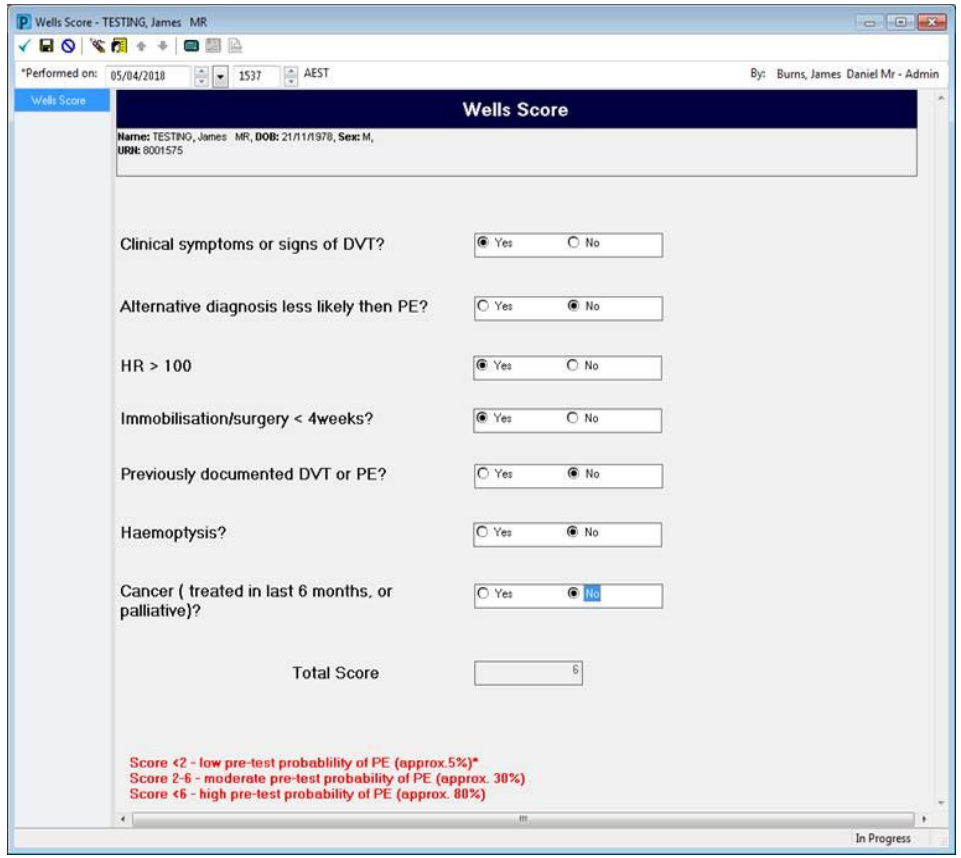
The project measured a number of outcomes including:

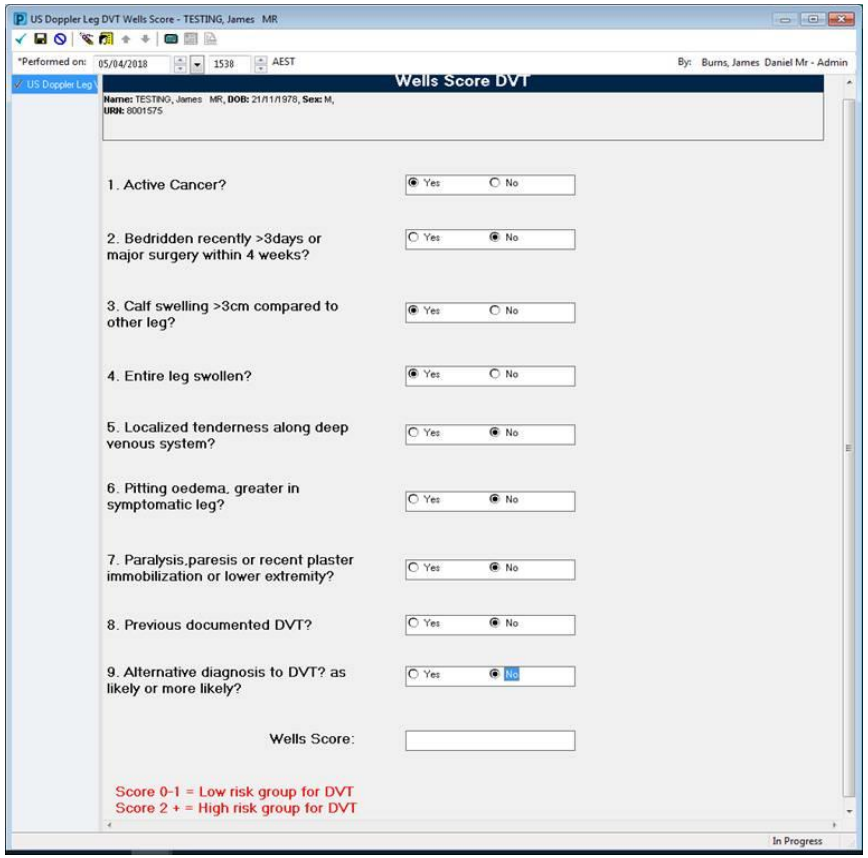
- The proportion of patients receiving an NSAID within 60 minutes of ED arrival (**increase from 40% to 84%**)
- The proportion of patient with a pain score < 2 at 60 minutes (**increase from 13% to 17%**)
- The proportion of patients discharged on a course of NSAIDs (**increase from 70% to 77%**)
- The proportion of patients receiving a CTKUB (**decrease from 53% to 23%)**
- The proportion of patients receiving a CTKUB with the correct indications **(increase from 38% to 71%)**



DVT/PE stratification.

- Development of an automated Well's score calculator built into Cerner

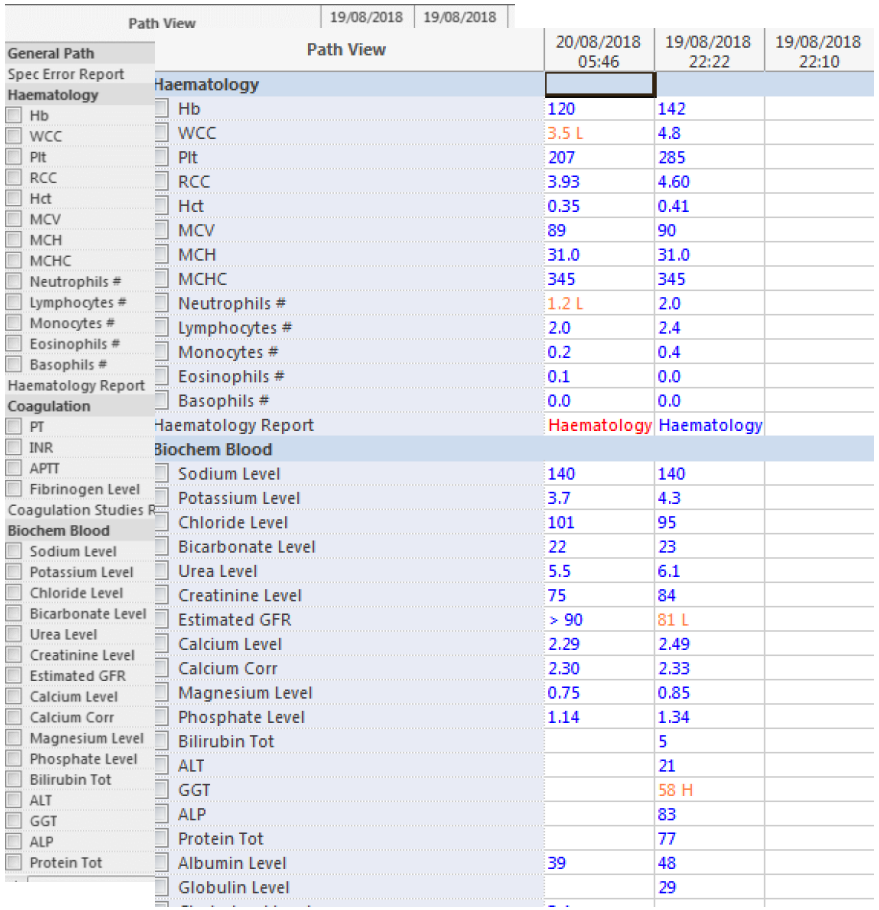




Next Area to Tackle: Routine Testing

Path View	19/08/2018 18:10	19/08/2018 11:53
General Path		
Spec Error Report		
Haematology		
Hb	119 L (c)	119 L
WCC	6.1 (c)	6.6
Plt	193 (c)	196
RCC	3.57 L (c)	3.61 L
Hct	0.35 L (c)	0.36
MCV	99 (c)	99
MCH	33.0 (c)	33.0
MCHC	337 (c)	331
Neutrophils #	3.5 (c)	4.8
Lymphocytes #	1.8 (c)	1.1
Monocytes #	0.6	0.5
Eosinophils #	0.1	0.1
Basophils #	0.1	0.0
Haematology Report	Haematology	Haematology
Coagulation		
PT		17.0 H
INR		1.6
APTT		
Fibrinogen Level		
Coagulation Studies Report		Coagulation
Biochem Blood		
Sodium Level	140	140
Potassium Level	4.2	4.5
Chloride Level	102	103
Bicarbonate Level	23	24
Urea Level	6.6	7.1
Creatinine Level	78	72
Estimated GFR	76 L	78 L
Calcium Level	2.31	
Calcium Corr	2.32	
Magnesium Level	0.81	
Phosphate Level	1.05	
Bilirubin Tot	19	15
ALT	15	18
GGT	50	50
ALP	118 H	118 H
Protein Tot	72	71

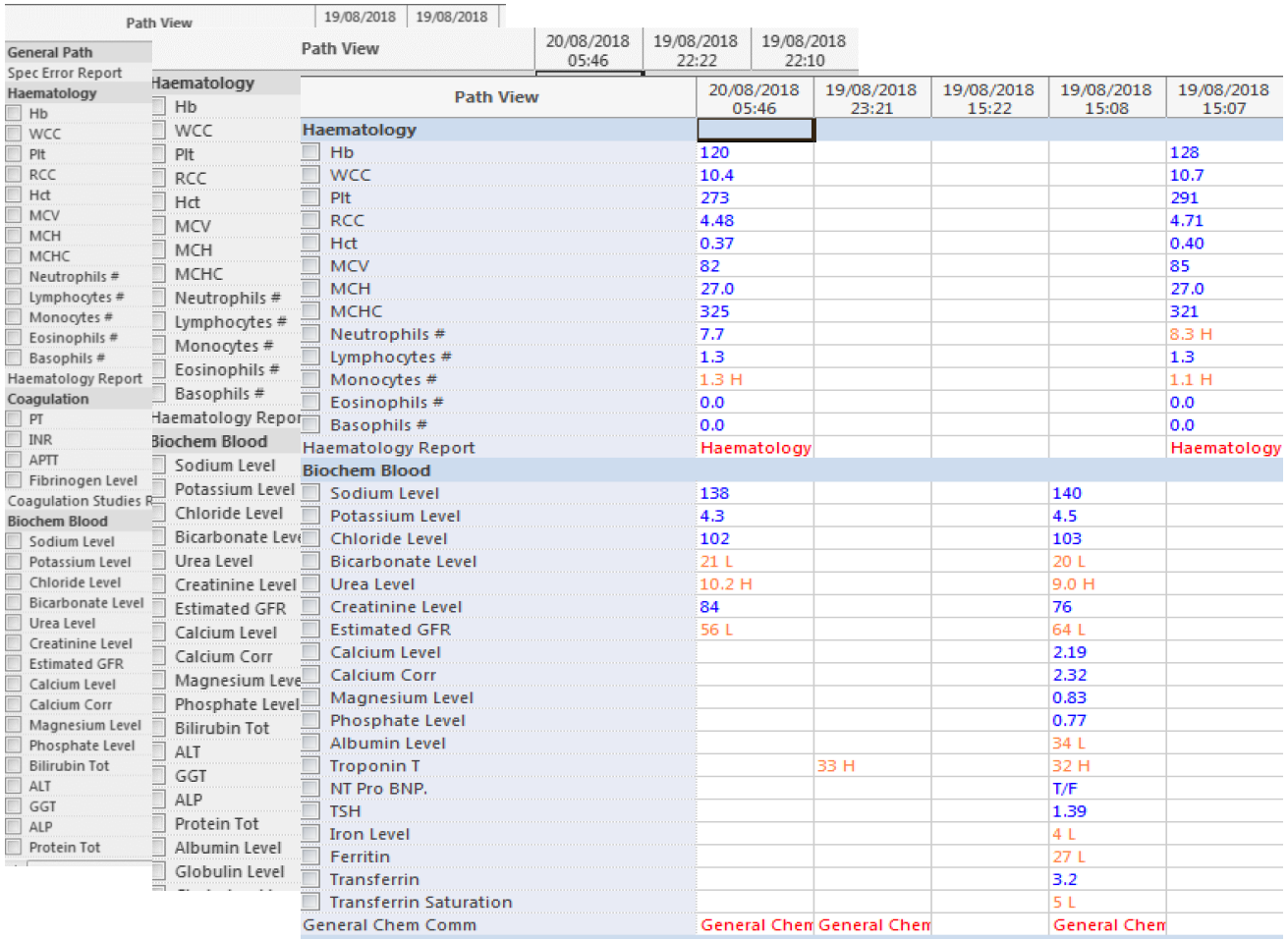
Next Area to Tackle: Routine Testing



Path View	19/08/2018	19/08/2018
General Path		
Spec Error Report		
Haematology		
Hb		
WCC		
Plt		
RCC		
Hct		
MCV		
MCH		
MCHC		
Neutrophils #		
Lymphocytes #		
Monocytes #		
Eosinophils #		
Basophils #		
Haematology Report		
Coagulation		
PT		
INR		
APTT		
Fibrinogen Level		
Coagulation Studies R		
Biochem Blood		
Sodium Level		
Potassium Level		
Chloride Level		
Bicarbonate Level		
Urea Level		
Creatinine Level		
Estimated GFR		
Calcium Level		
Calcium Corr		
Magnesium Level		
Phosphate Level		
Bilirubin Tot		
ALT		
GGT		
ALP		
Protein Tot		

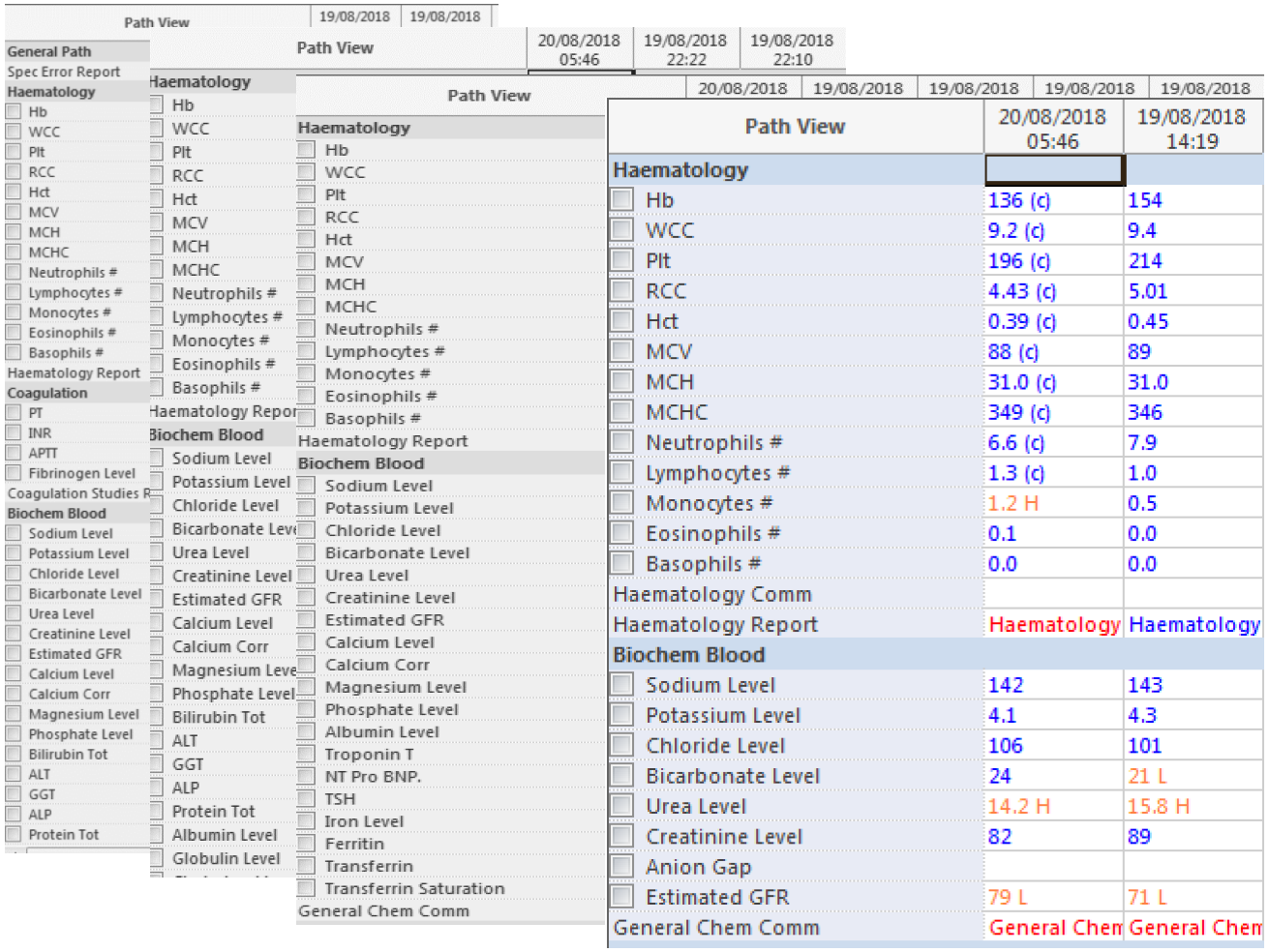
Path View	20/08/2018 05:46	19/08/2018 22:22	19/08/2018 22:10
Haematology			
Hb	120	142	
WCC	3.5 L	4.8	
Plt	207	285	
RCC	3.93	4.60	
Hct	0.35	0.41	
MCV	89	90	
MCH	31.0	31.0	
MCHC	345	345	
Neutrophils #	1.2 L	2.0	
Lymphocytes #	2.0	2.4	
Monocytes #	0.2	0.4	
Eosinophils #	0.1	0.0	
Basophils #	0.0	0.0	
Haematology Report	Haematology	Haematology	
Biochem Blood			
Sodium Level	140	140	
Potassium Level	3.7	4.3	
Chloride Level	101	95	
Bicarbonate Level	22	23	
Urea Level	5.5	6.1	
Creatinine Level	75	84	
Estimated GFR	> 90	81 L	
Calcium Level	2.29	2.49	
Calcium Corr	2.30	2.33	
Magnesium Level	0.75	0.85	
Phosphate Level	1.14	1.34	
Bilirubin Tot		5	
ALT		21	
GGT		58 H	
ALP		83	
Protein Tot		77	
Albumin Level	39	48	
Globulin Level		29	

Next Area to Tackle: Routine Testing



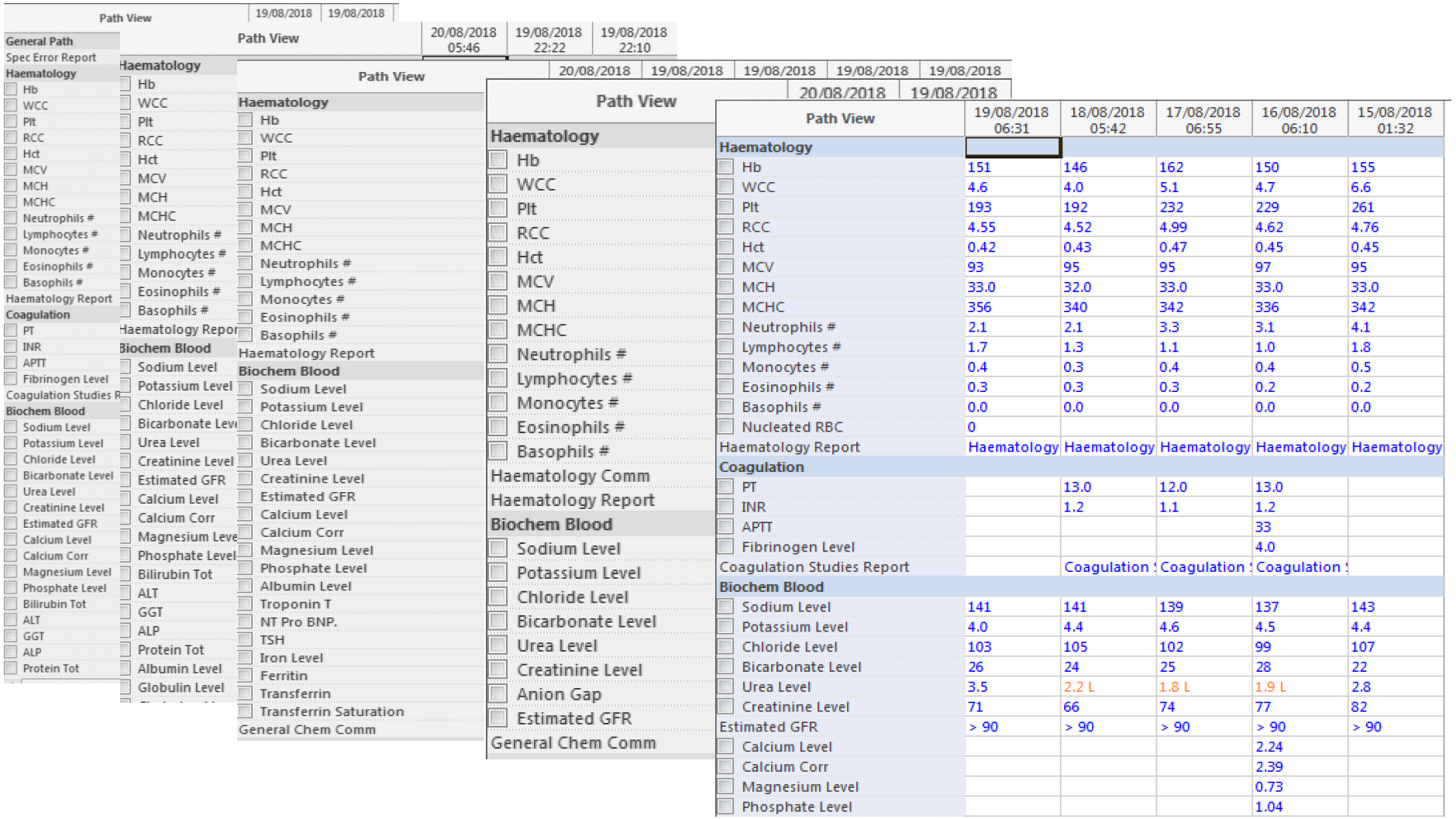
Path View	20/08/2018 05:46	19/08/2018 23:21	19/08/2018 15:22	19/08/2018 15:08	19/08/2018 15:07
Haematology					
Hb	120				128
WCC	10.4				10.7
Plt	273				291
RCC	4.48				4.71
Hct	0.37				0.40
MCV	82				85
MCH	27.0				27.0
MCHC	325				321
Neutrophils #	7.7				8.3 H
Lymphocytes #	1.3				1.3
Monocytes #	1.3 H				1.1 H
Eosinophils #	0.0				0.0
Basophils #	0.0				0.0
Haematology Report	Haematology				Haematology
Biochem Blood					
Sodium Level	138			140	
Potassium Level	4.3			4.5	
Chloride Level	102			103	
Bicarbonate Level	21 L			20 L	
Urea Level	10.2 H			9.0 H	
Creatinine Level	84			76	
Estimated GFR	56 L			64 L	
Calcium Level				2.19	
Calcium Corr				2.32	
Magnesium Level				0.83	
Phosphate Level				0.77	
Albumin Level				34 L	
Troponin T		33 H		32 H	
NT Pro BNP.				T/F	
TSH				1.39	
Iron Level				4 L	
Ferritin				27 L	
Transferrin				3.2	
Transferrin Saturation				5 L	
General Chem Comm	General Chem	General Chem		General Chem	

Next Area to Tackle: Routine Testing



Path View	20/08/2018 05:46	19/08/2018 14:19
Haematology		
Hb	136 (c)	154
WCC	9.2 (c)	9.4
Plt	196 (c)	214
RCC	4.43 (c)	5.01
Hct	0.39 (c)	0.45
MCV	88 (c)	89
MCH	31.0 (c)	31.0
MCHC	349 (c)	346
Neutrophils #	6.6 (c)	7.9
Lymphocytes #	1.3 (c)	1.0
Monocytes #	1.2 H	0.5
Eosinophils #	0.1	0.0
Basophils #	0.0	0.0
Haematology Comm		
Haematology Report	Haematology	Haematology
Biochem Blood		
Sodium Level	142	143
Potassium Level	4.1	4.3
Chloride Level	106	101
Bicarbonate Level	24	21 L
Urea Level	14.2 H	15.8 H
Creatinine Level	82	89
Anion Gap		
Estimated GFR	79 L	71 L
General Chem Comm	General Chem	General Chem

Next Area to Tackle: Routine Testing



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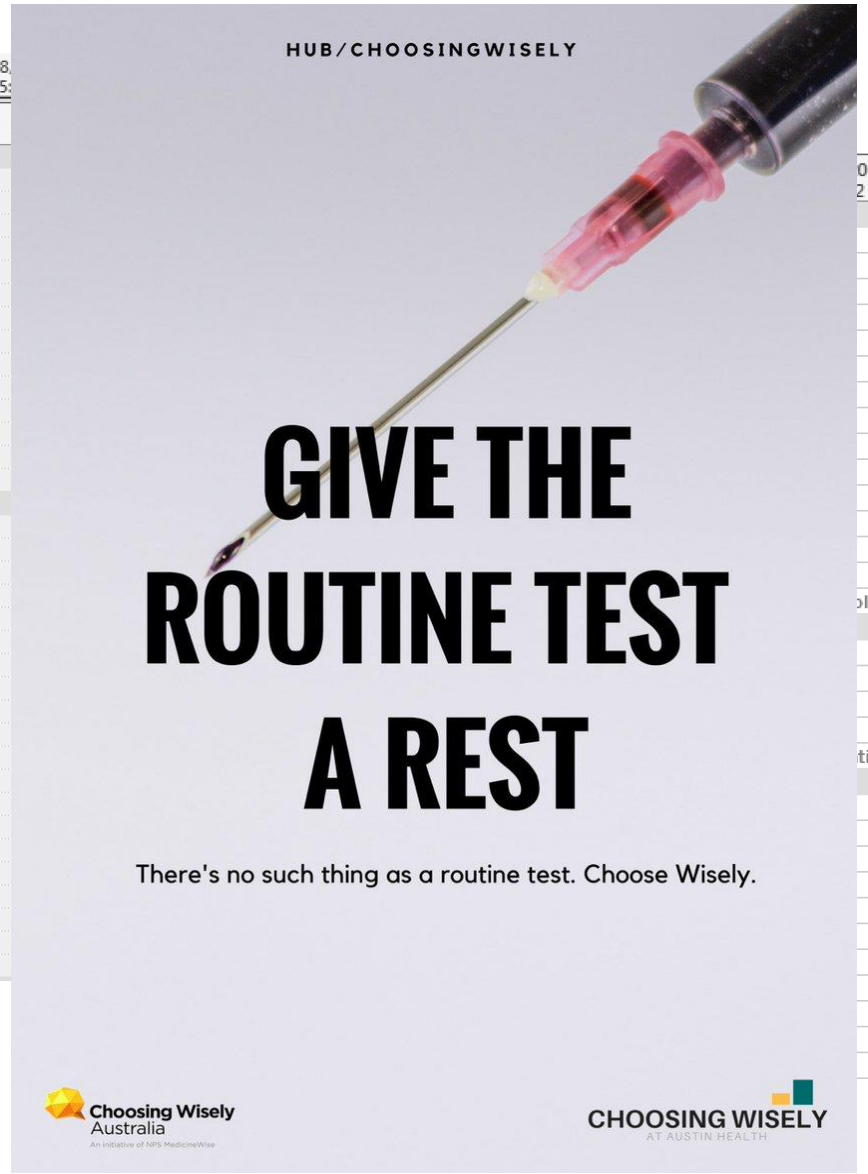

Path View	19/08/2018	19/08/2018
General Path		
Spec Error Report		
Haematology		
Hb		
WCC		
Plt		
RCC		
Hct		
MCV		
MCH		
MCHC		
Neutrophils #		
Lymphocytes #		
Monocytes #		
Eosinophils #		
Basophils #		
Haematology Report		
Coagulation		
PT		
INR		
APTT		
Fibrinogen Level		
Coagulation Studies R		
Biochem Blood		
Sodium Level		
Potassium Level		
Chloride Level		
Bicarbonate Level		
Urea Level		
Creatinine Level		
Estimated GFR		
Calcium Level		
Calcium Corr		
Magnesium Level		
Phosphate Level		
Bilirubin Tot		
ALT		
GGT		
ALP		
Protein Tot		

Path View	20/08/ 05:
Haematology	
Hb	
WCC	
Plt	
RCC	
Hct	
MCV	
MCH	
MCHC	
Neutrophils #	
Lymphocytes #	
Monocytes #	
Eosinophils #	
Basophils #	
Haematology Repor	
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Sodium Level	
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Urea Level	
Creatinine Level	
Estimated GFR	
Calcium Level	
Calcium Corr	
Magnesium Leve	
Phosphate Level	
Bilirubin Tot	
ALT	
GGT	
ALP	
Protein Tot	
Albumin Level	
Globulin Level	

Path View
Haematology
Hb
WCC
Plt
RCC
Hct
MCV
MCH
MCHC
Neutrophils #
Lymphocytes #
Monocytes #
Eosinophils #
Basophils #
Haematology Report
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Sodium Level
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Calcium Level
Calcium Corr
Magnesium Level
Phosphate Level
Albumin Level
Troponin T
NT Pro BNP.
TSH
Iron Level
Ferritin
Transferrin
Transferrin Saturation
General Chem Comm

018 2	17/08/2018 06:55	16/08/2018 06:10	15/08/2018 01:32
	162	150	155
	5.1	4.7	6.6
	232	229	261
	4.99	4.62	4.76
	0.47	0.45	0.45
	95	97	95
	33.0	33.0	33.0
	342	336	342
	3.3	3.1	4.1
	1.1	1.0	1.8
	0.4	0.4	0.5
	0.3	0.2	0.2
	0.0	0.0	0.0
ology	Haematology	Haematology	Haematology
	12.0	13.0	
	1.1	1.2	
		33	
		4.0	
tion	Coagulation	Coagulation	
	139	137	143
	4.6	4.5	4.4
	102	99	107
	25	28	22
	1.8 L	1.9 L	2.8
	74	77	82
	> 90	> 90	> 90
		2.24	
		2.39	
		0.73	
		1.04	

Other areas

Done or in progress

- PPI prescribing
- Opiate prescribing
- EOLC
- Discharging Wisely
- Urine drug screens
- Ix of febrile neutropenia
- Blood product use.

On the list

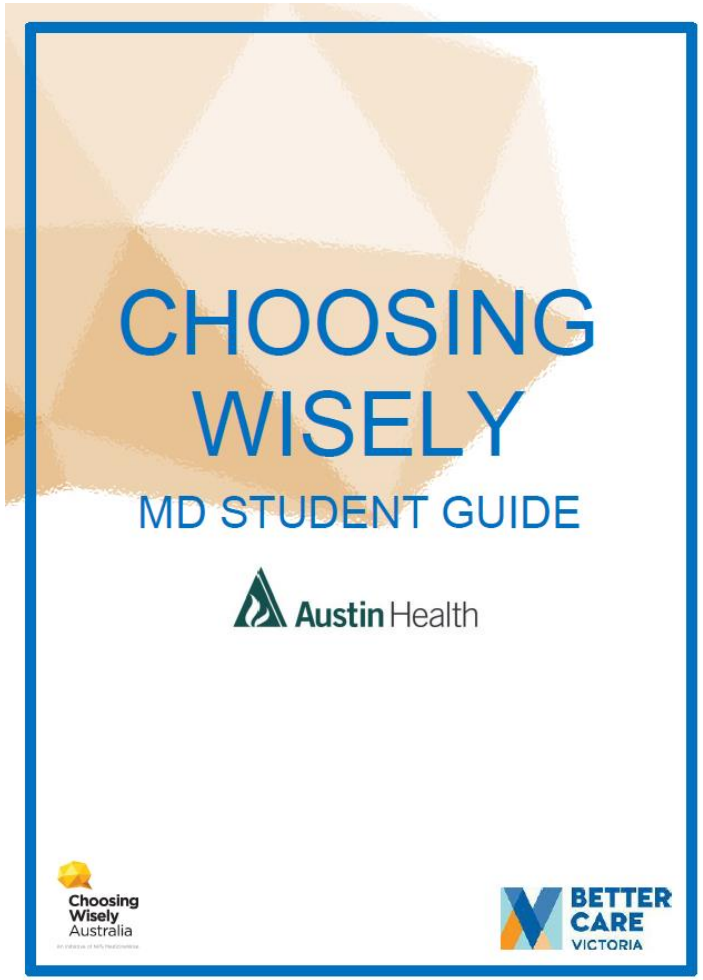
- Further imaging projects – Shoulder dislocation/ CXR.
- CTB in delerium
- Referring Wisely – Fracture clinic diversion.
- Impact of CW on our carbon footprint.

Junior Medical Staff Engagement

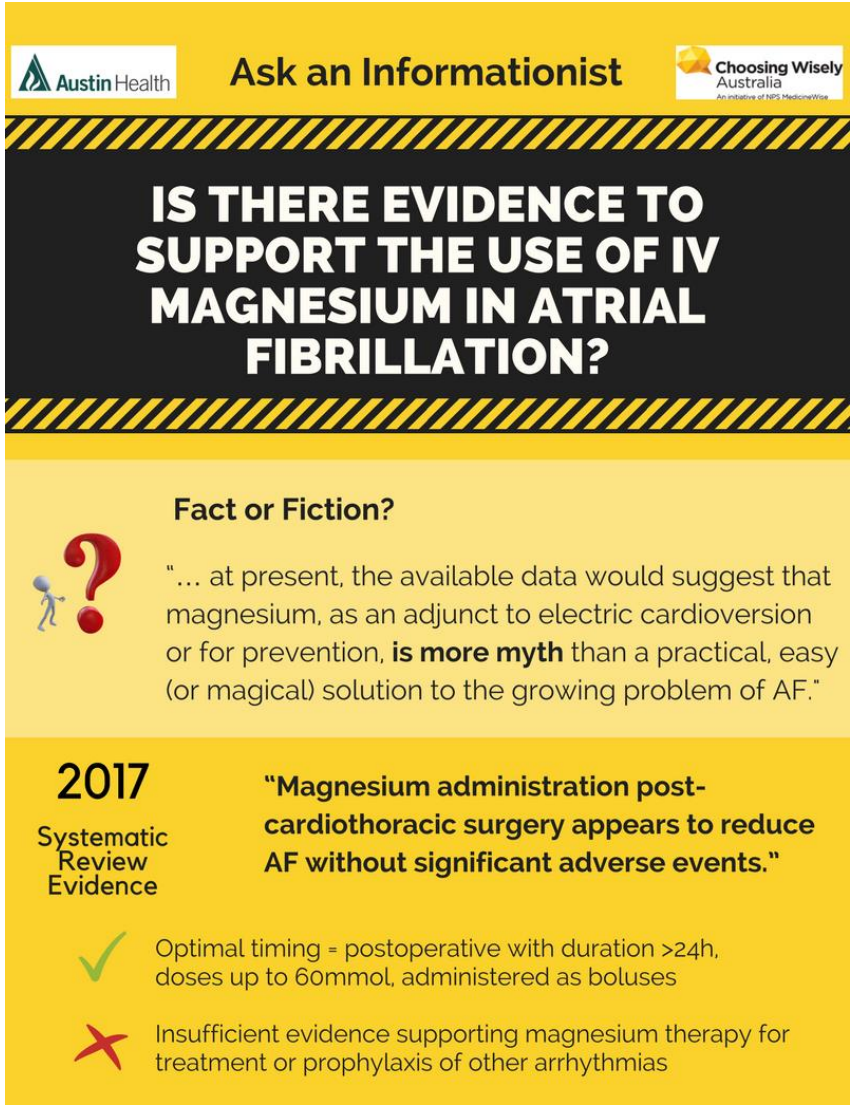
Choosing Wisely Handbook available on the Hub and features Recommendations relevant to MD2 rotations

Consider inclusion of Choosing Wisely related recommendations into your unit handbook

MD students involved in many choosing wisely projects across the hospital



Ask an Informationist



- Six months a year, Austin Library produces an evidence summary based on clinical questions suggested by Austin Health Clinicians

- Topics examined so far include:
  - Opioids post-fracture
  - Minimum retesting intervals in microbiology
  - PPIs in GI bleeds
  - IV Magnesium in AF

- Next topics to include:
  - Amiodarone infusions in AF
  - Renal colic therapies
  - Deprescribing statins

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Choosing Wisely Victorian Collaboration

Austin HEALTH

Choosing Wisely Scaling Collaboration

- In partnership with Austin Health, NPS Medicine Wise
- Collaboration approach based on 12 month learning system
  - Approximately every 6-8 weeks
  - Led by a participating health service
- Funding of $100,000 per health service to participate
- Alpha Crucis Group leading the evaluation

Choosing Wisely Scaling Collaboration

- Key features of the Collaboration are Based on the IHI Collaborative series that is characterised by:
  - Finite period of support
  - Single improvement theme
  - Mentoring for successful implementation
  - Regular gatherings where services reflect on the journey so far
  - Based on scaling best practice

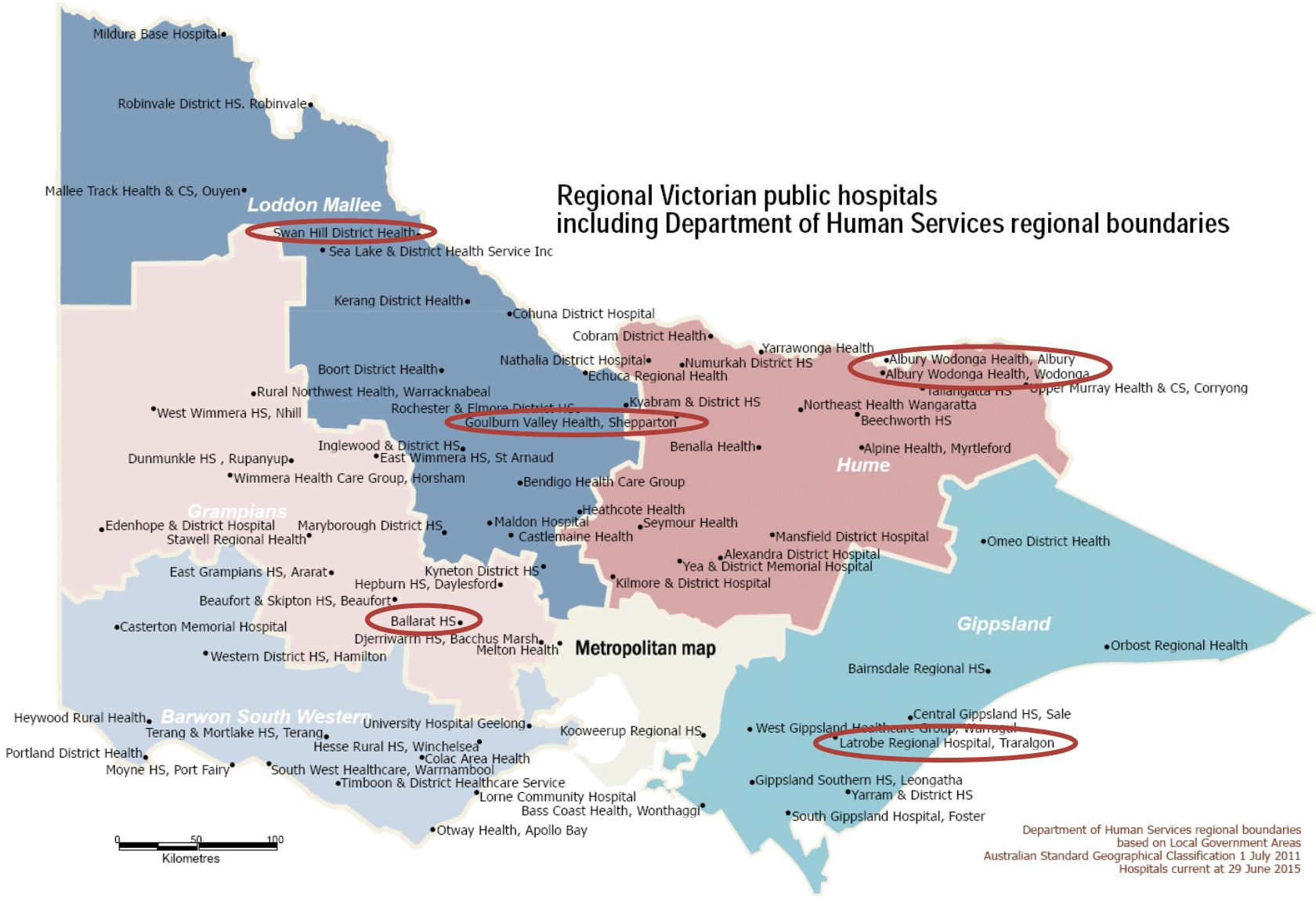
Collaboration Aim

- To increase the number of Choosing Wisely Champions Health Services across Victoria that supports health professionals in delivering safe, effective and efficient care for patients.

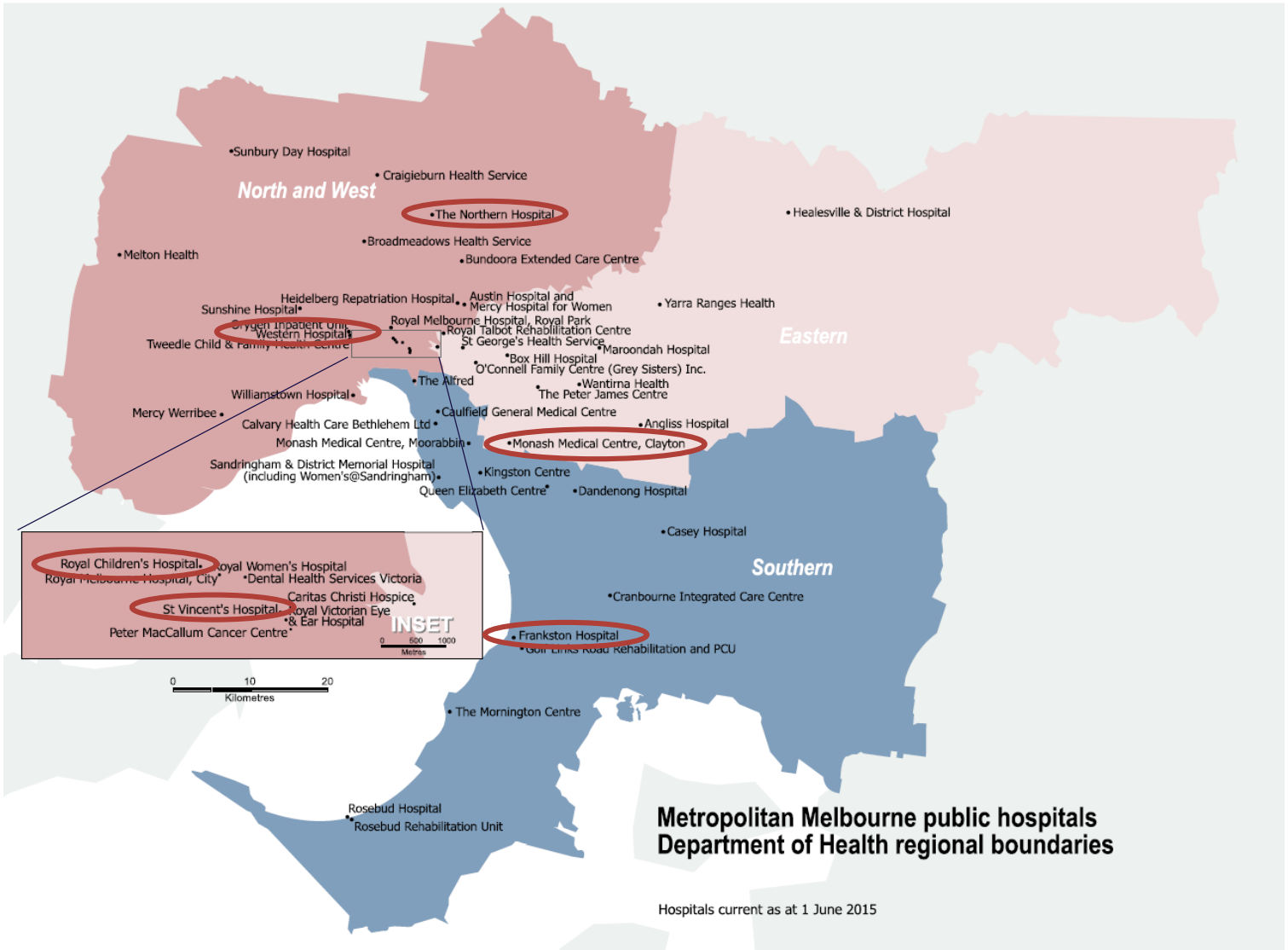
Collaboration Objectives

- To establish a sustainable framework to measure low value care and impact of interventions designed to reduce low value care practices
- Decrease the proportion of low value care practices delivered in health services by reducing unnecessary requestion of tests, treatments and procedures

Choosing Wisely Scaling Collaboration



Choosing Wisely Scaling Collaboration



Collaboration Site Topics

Clinical area	Sites
Radiology	
Chest x-rays for the diagnosis of bronchiolitis & asthma in children	• Albury-Wodonga Health • Royal Children's Hospital
Chest x-rays in ICU	• St Vincent's
CT scans after hours in ED	• Ballarat Health (Abdo & Brain CT) • Goulburn Valley Health (CTPA, Abdo, C-Spine & Brain)
CT ultrasounds for patients with renal colic	• Monash Health
CT lumbar spine (non-trauma)	• Peninsula Health
CT brain in head injury	• Western Health
Diagnostic testing for PE	• Swan Hill • Western Health
Ultrasound for inguinal hernia	• Northern Health
Other imaging (lower back, cervical spine, ankle)	• Western Health
Pathology	
Arterial Blood Gases in ICU	• St Vincent's
Coagulation Studies in ED	• La Trobe Regional Hospital • Northern Health • Peninsula Health
Midstream Urine Samples in patients > 50 years	• Monash Health
Venous Blood Gases in ED	• Ballarat Health
Other	
ICU observations and invasive line use in ward ready patients	• St Vincent's