



Project Oak

EPR Implementation

Council of Clinical Information Officers

Dr Grainne Courtney CCIO
&
Miriam Roche, Project Manager



Project Oak Electronic Patient Record



Nursing Records

- All Admission Assessments
- Daily Assessments/Notes
- End of Bed Notes
- Some Care Plans

Physician Records

- Admission Notes
- Ward Round Note
- Clinical Consultations
- Problems & Diagnosis
- VTE/4AT Assessments

E-Prescribing & Administration

- Order Catalogue
- Allergy Checking
- Decision Support
- High Level Interaction Checking

Not Included:

Outpatients/Ambulatory Care

Exception of:

Few services partially/fully on EPR

GUIDe Clinic & Breast Care

Theatre

Exception of:

- Operation Notes
for some Services

Emergency Dept.

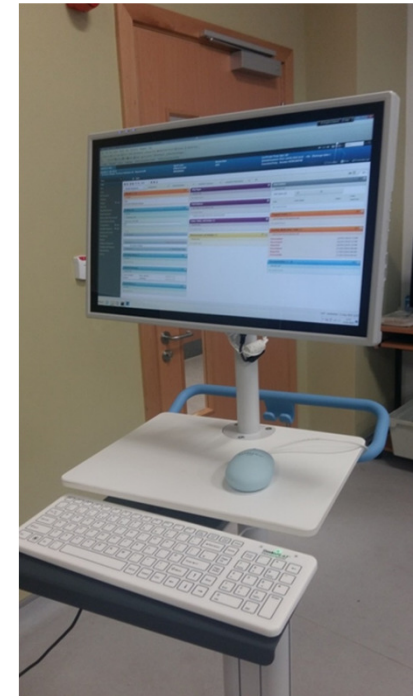
Exception of:

- Nursing Notes
- E-Prescribing
- Physician Notes for
Admitted Patients

Chemotherapy & Insulin

Nursing Care Plans


Consent







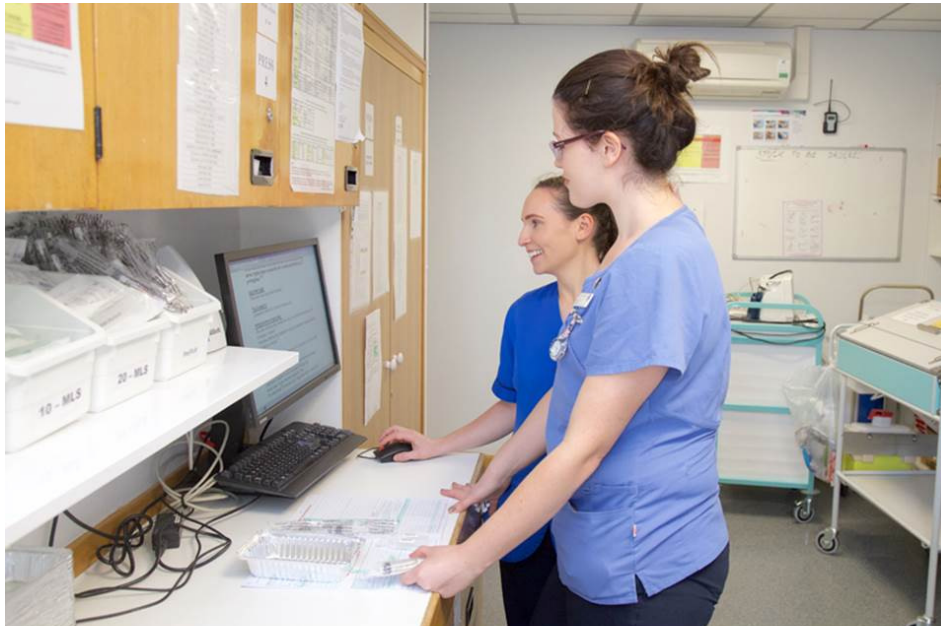
Go Live Weekend 13th & 14th October

Technical &
Clinical 
Cutover plans

Command
Centre &
Helpdesk 

Lower turnover
areas to High
Turnover 
wards/ED

Fully Live 4pm
14th October




 live in 36 clinical
areas

 supported 40
clinical areas

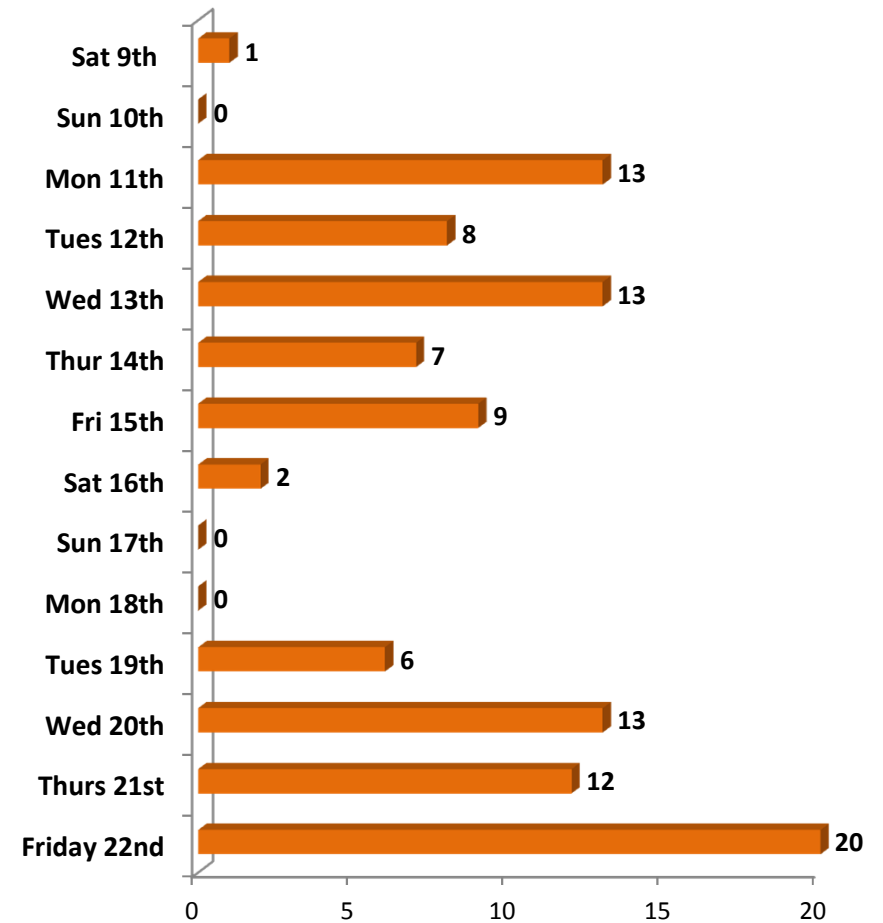
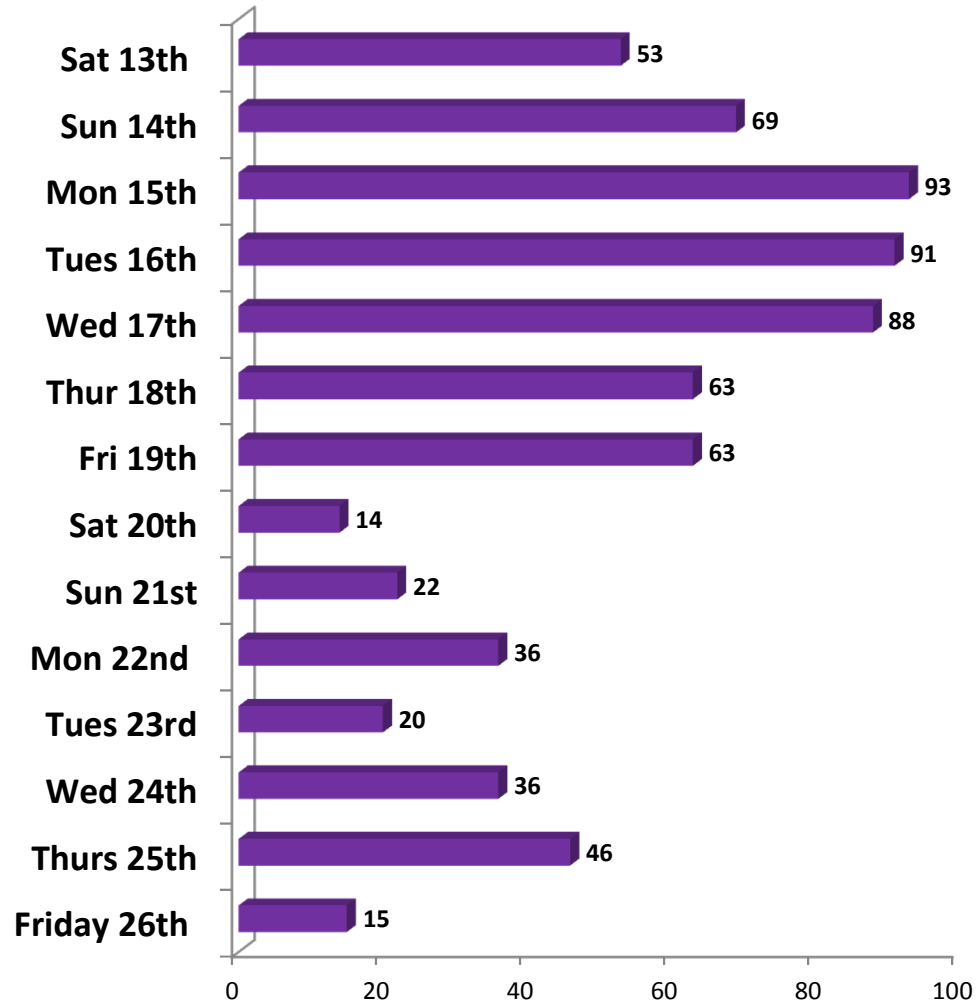
Support Model

- EPR Coach training provided
- All support provided by SJH staff (clinical & non-clinical) and TCD Medical & Nursing students
- 24 hour support by supernumerary EPR coaches & Project Oak team for 2 weeks.
- 12 Trainers in position until 2 months post go-live (on ward support)

Service Desk Calls Reached a Plateau After a Week

During Go-live High Support

March 2019



Benefits

- In-patient record in one place
- Compliance with structured assessments
- Data to inform quality improvements and clinical surveillance
- Allergy Checking & Decision Support
- Releasing time to care for Nursing Staff
- Prospect of data on smoking, socioeconomic status, falls..... to inform patient care and resource allocation

BI- Patient Care Metrics in Development

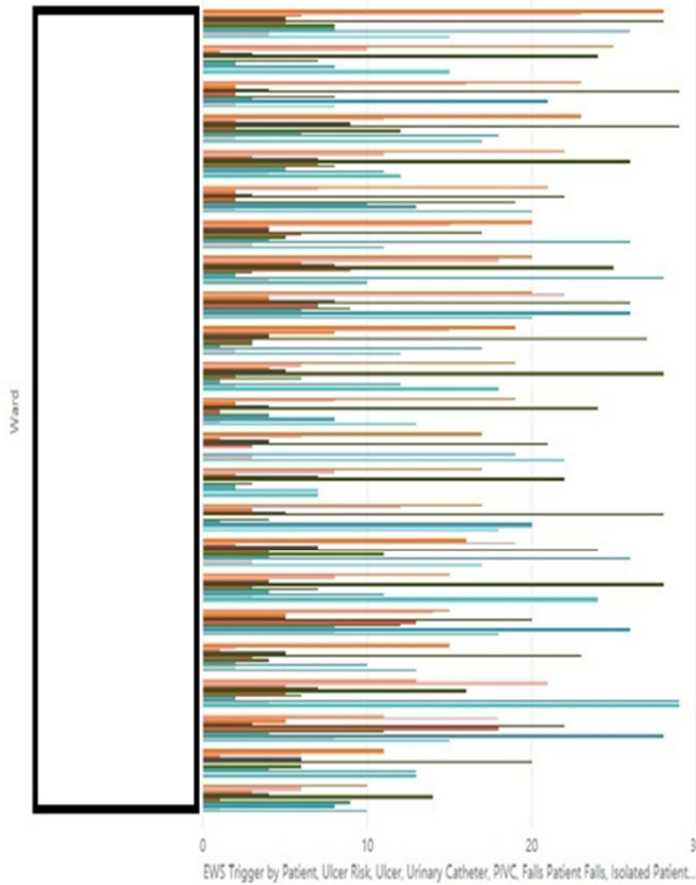
Patient Care Metrics: Summary by Current Episode

2019-04-29 11:12

EWS Trigger by Patient, Ulcer Risk, Ulcer, Urinary Catheter, PIVC, Falls Patient Falls, Isolated Patient, Isolati...

874
Distinct Patients

● EWS Tri... ● Ulcer Risk ● Ulcer ● Urinary ... ● PIVC ● Falls Pa... ● Isolate... ● Isolatio... ● Fall Ris...

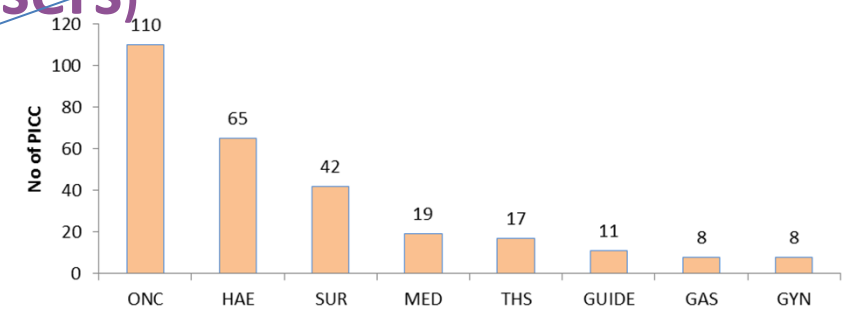


Ward Age Range

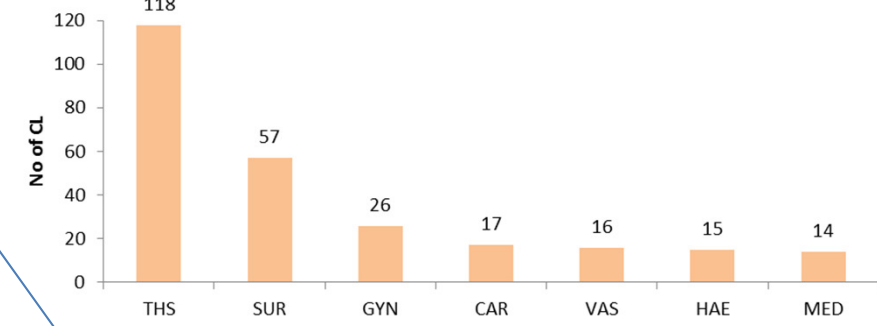
Central Venous Access Distribution by Specialty (Top users)

CVAD Type	Number
PICC	326
Central Line	322
Hickman	43
Vas Cath	34
Port-a-cath	26
Permanent Vas Cath	12
Others	7
Grand Total	770

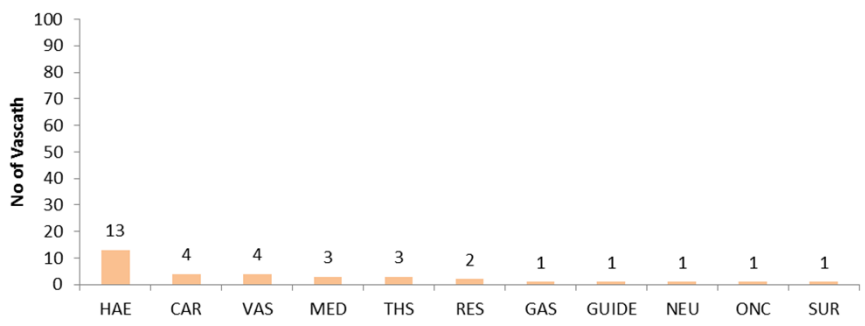
No. of PICC per Specialty Q1 2019
(n=326)



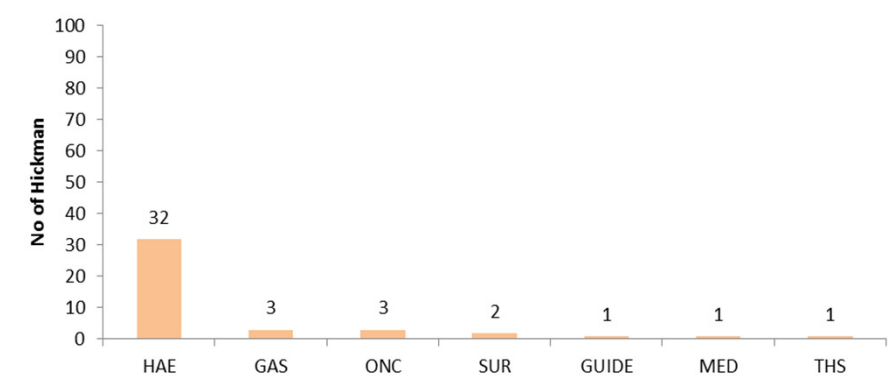
No. of Central Lines per Specialty Q1 2019
(n=322)



No. of Vascath Lines per Specialty Q1 2019
(n=34)



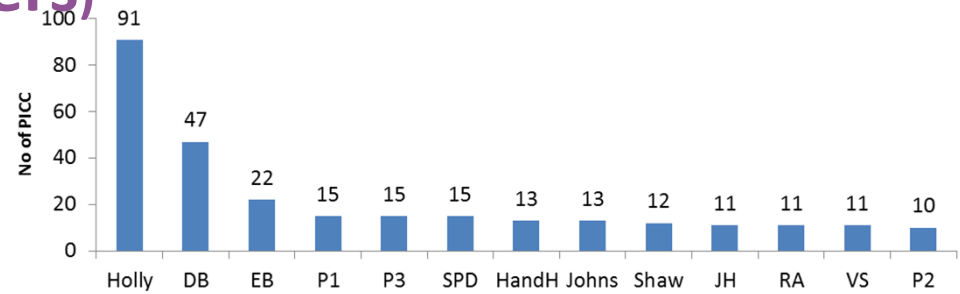
No. of Hickman Lines per ward Q1 2019 (n=43)



Central Venous Access Distribution by Ward (Top users)

CVAD Type	Number
PICC	326
Central Line	322
Hickman	43
Vas Cath	34
Port-a-cath	26
Permanent Vas Cath	12
Others	7
Grand Total	770

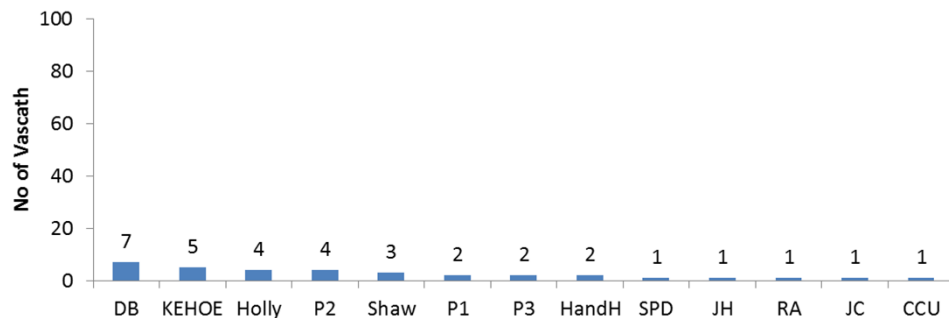
No. of PICC per ward Q1 2019
(n=326)



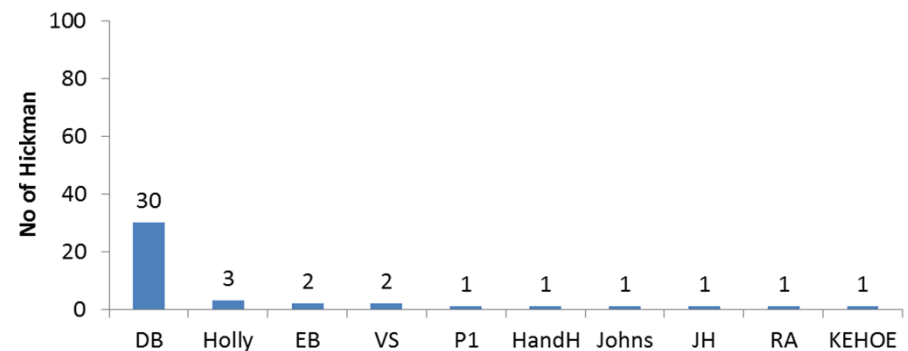
No. of Central Lines per ward Q1 2019
(n=322)



No. of Vascath Lines per ward Q1 2019 (n=34)




No. of Hickman Lines per ward Q1 2019 (n=43)



Clinical Decision Support

Alerts

- Allergy alert
- Drug Interaction alert
- VTE risk assessment
- High INR rule
- Antimicrobial review date
- Methotrexate
- Duplicate rules
 - anticoagulants/paracetamol
- Bleeding Disorder alert



****Antimicrobial Review Due****

The following medication(s) have passed their review date/time and need to be reviewed by a prescriber:

- Fluconazole injection, Piptazobactam



VTE ALERT - VTE Assessment is Pending

VTE Assessment and appropriate action for VTE Prophylaxis required (within 8 hours of admission)

Changes for Physicians

- Hard stops – Allergies/VTE/4AT/ADD
- Antimicrobial Review (72 hours)
- Resuscitation Tool – not mandatory
- Major impact on WR and workflows
- **4AT/VTE hard stops removed from consultants**
- **VTE/4AT removed after 6 days for all**
- Outcomes reviewed

VTE Hard Stop –Before and after

Admissions eligible for VTE Assessment	Number of Overrides	Oct-Dec 2018 (4599)	Jan-Mar 2019 (4749)
	NIL	2685 (58%)	3605(76%)
	1	554 (12%)	446(9.39%)
	2	351 (7.6%)	249(5.2%)
	5-10	297 (6.4%)	214(3.6%)
	>10	112 (2.43%)	40(0.8%)

4AT Hard Stop Results Before and after rule changes

Admissions eligible for Hard Stop 4AT	Number Overrides	Jul-Dec 2018 (4679)	Jan-March 2019 (2057)
	NIL	2,982 (64%)	1549(75%)
	1	471 (10%)	172 (8.6%)
	2	315 (6.7%)	108(5.25%)
	5-10	254 (5.4%)	88(4.27%)
	>10	197 (4.2%)	21(1.02%)

Benefits- Meropenem Query List

- Loads in-patients currently on Meropenem
- Combined with consumption data to deliver stats on Meropenem use

Meropenem Patient List (K. Flannery)

- ID patients for Antimicrobial Stewardship
- Combine with lab data

MRN	Na	Admit Date	Length of Stay	Consultant	Specialty	Sex	DOB	Age	Location
0178436	GII	25/03/2019 12:32	59.0 Days	Kevans , Dav	Gastro-Enterology	Female	15/08/1938	80 years	Hepatology / Haematology Ward Bed 115
1379928	OF	16/05/2019 12:44	7.0 Days	Tuohy , Emm	Haematology	Female	14/04/1978	41 years	Donal Hollywood Ward Bed 438
0348031	LA	01/05/2019 19:52	21.7 Days	Merry , Conc	GUIDE	Male	15/06/1955	63 years	Victor Synge Ward Bed 618
0538785	WI	09/05/2019 19:04	13.7 Days	O Callaghan	Medicine	Male	19/06/1958	60 years	John Houston Ward Bed 131
1416317	MC	18/05/2019 22:54	4.6 Days	Akasheh , Ni	Medicine	Female	11/03/1975	44 years	William Wilde Ward Bed 619
0724526	FL	02/04/2019 15:25	50.9 Days	Conneally , I	Haematology	Male	17/12/1980	38 years	Denis Burkitt Ward Bed 109
0195149	NC	17/05/2019 19:46	5.7 Days	Mc Carroll , I	Geriatric	Female	10/04/1939	80 years	Mary Mercers Ward Bed 616
1517662	FC	09/05/2019 11:42	14.1 Days	Reynolds , Jr	Surgery	Male	09/10/1945	73 years	Private Two Bed 106
0317854	HC	18/05/2019 00:11	5.5 Days	Ravi , Naray	Surgery	Female	22/03/1957	62 years	Bennett's Ward Bed 616
1528321	YEI	07/05/2019 18:26	15.8 Days	Larkin , Johr	Surgery	Male	17/09/1992	26 years	St. John's Ward Bed 131
1526992	DC	29/04/2019 15:31	23.9 Days	McCormick ,	Surgery	Female	10/06/2000	18 years	Private Three Bed 101
1285623	RY	09/05/2019 10:28	14.1 Days	Flynn , Cath	Haematology	Male	09/03/1964	55 years	Hepatology / Haematology Ward Bed 108
0790499	DC	12/02/2019 17:04	99.8 Days	Cunninghan	Geriatric	Female	21/08/1948	70 years	George Frideric Handel Ward Bed 117

Whiteboard – Meropenem list

Doctors Worklist Full screen

Doctors Worklist Establish Relationships Patient Search:

List: Meropenem Patient List (K. Flannery) (13)

Patient	Visit	A.	Location	Labs	Problems	Dx	Re...	Iso...	4AT
48	LOS: 3 months 1 week ADM DT: Feb 12, 2019 ADD: Feb 18, 2019			Hb (g/dL) ↓ 11.2 WCC (10 9/L) 7.7 Plat (10 9/L) ↑ 530 Creatinine (umol/L) ↓ 34	VRE	Acute osteomyelitis Clinical sepsis Delirium Number of decubitus ulcers [6]			6
00	LOS: 23 days ADM DT: Apr 29, 2019 ADD: May 2, 2019			Hb (g/dL) ↓ 8.8 WCC (10 9/L) 6 Plat (10 9/L) Creatinine (umol/L)	--	Abdominal mass Abdominal pain		--	--
80	LOS: 7 weeks 6 days ADM DT: Apr 2, 2019 ADD: Apr 24, 2019			Hb (g/dL) WCC (10 9/L) Plat (10 9/L) Creatinine (umol/L)					
5	LOS: 14 days ADM DT: May 9, 2019 ADD: May 27, 2019			Hb (g/dL) ↓ 10.5 WCC (10 9/L) ↑ 16.5 Plat (10 9/L) ↑ 705 Creatinine (umol/L) ↓ 54	ESBL Escherichia coli	Tumor of cardia type III Venous thromboembolism prevention...			0
38	LOS: 8 weeks ADM DT: Mar 25, 2019 ADD: Apr 1, 2019			Hb (g/dL) ↓ 9.7 WCC (10 9/L) 6.7 Plat (10 9/L) 295 Creatinine (umol/L) 47	Anemia COPD (Moderate) on PFTs 2012 Epilepsy Gastritis [3]	History of thoracic laminectomy Venous thromboembolism prevention...			0
57	LOS: 5 days ADM DT: May 18, 2019 ADD: May 24, 2019			Hb (g/dL) 12.3 WCC (10 9/L) ↑ 20.5 Plat (10 9/L) 366	Finger fracture	Venous thromboembolism prevention...		--	--

Isolation Precaution

	Most Recent	Previous	
Isolation Precaution	ESBL (Contact Precaution) 20 May 2019 18:28	ESBL (Contact Precaution) 20 May 2019 04:52	ESBL (Contact Precaution) 19 May 2019 10:34

[Show All Clinical Events](#)

Impact of EPR on Vancomycin prescribing - Audit

- Vancomycin power plan- guideline at point of prescribing on EPR
- **67%** of patients were already on appropriate Vancomycin therapy as per guidelines– higher than previous in-house audit (51%)³
- Loading doses had been given in 18 (**43%**) of cases-higher than previous audit³
- The documented indication for Vancomycin in case notes matched the EPR indication in 32 (76%) of cases
- Only 4 cases out of 42 had overdue trough levels
- Trough levels timing correct in 24 of 26 trough levels taken

What we are currently working on

- Nurturing adoption & auditing use of the system
- Ongoing training delivery for new staff and medical staff rotation
- Management of change requests and clinical risks
- Small scale EPR implementations such as Falls and Syncope Service
- Plans to Share Learning Nationally-Evaluation Research Project-SJH/TCD/HSE
- Planning for next implementations

Thank you

