Live Data Reporting

An initiative of the MLHD Whole of Hospital and Clinical Analytics Team

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Murrumbidgee Local Health District

Topics

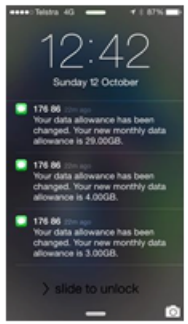
- Curr
- Dev
- Future Reporting Framework

When too much data is barely enough

Shane Curran FACEM

Director ED

Wagga Wagga Base Hospital



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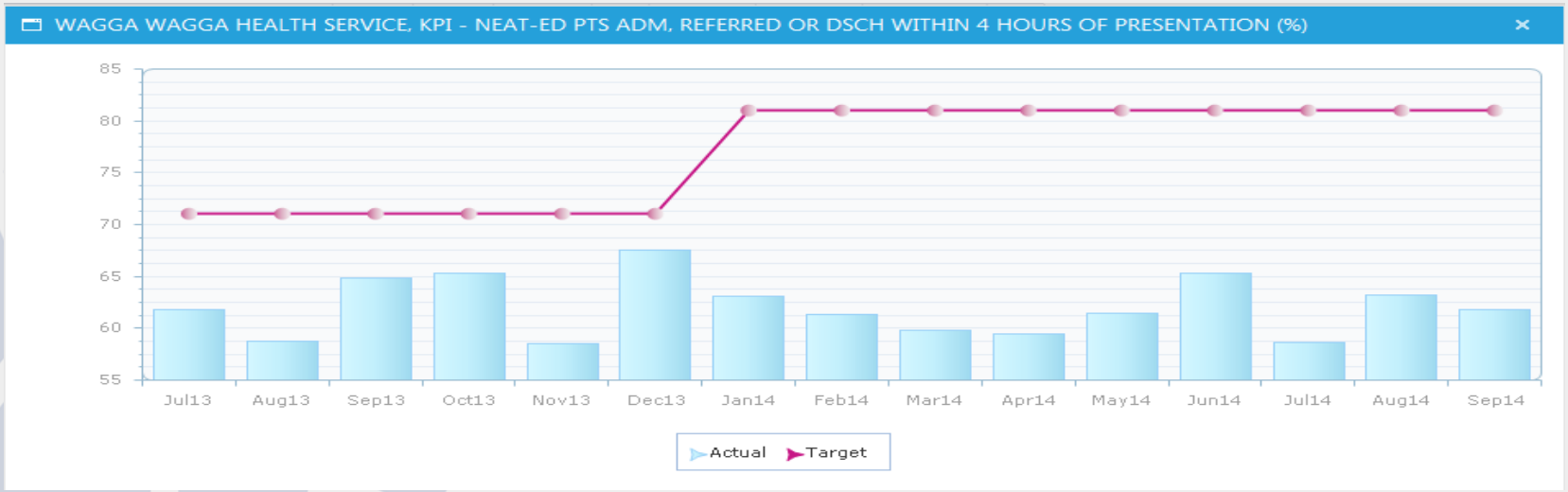
Current Focus of ED reporting at WWBH

- *What are we trying to achieve? NEAT*
- *NEAT is really achieving safe and efficient flow of patients through our hospital system and back to the community.*
- *The objective of the National Emergency Access Target is to progressively increase the percentage of patients whose total time in the ED is within 4 hours to ensure safe, quality and timely care for patients*



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Monthly Reporting – KPI Dashboard

- Management / Reporting focus
- Retrospective
- Not Actionable
- Allows identification of Trends, with discussion of what has caused major issues, not achievement of KPI

Weekly / Daily Reporting – Excel

- Management / Reporting focus
- Retrospective
- Not Actionable
- Provides some relevance to motivation of front line staff

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Manual Reporting process continued

- Extract reports from EMR
- Massage and remove records with errors
- Calculation of NEAT performance in a spread sheet
- Creation of report for local management
- 80hr per week (2FTE) spent state-wide on manual report generation
- How does this assist with *safe, quality and timely care for patients* ?

Live Dashboard (POC)

- Focus on patients still in the hospital
- Provides automated actionable insight into what's happening with our patients
- Provides clinicians with information to more effectively target resources to assist staff to provide safe, quality and timely care for patients.

Live Dashboard (POC) continued

- Automated feed from EMR Proposed, (currently still manual)
- Automated model creation with error control framework for frontline staff (live)
- Calculation of all KPI's automated including trend data
- Live drillable Dashboards and standardised drillable reports
- Upfront development with tools that enable front line staff to ask questions, and get answers in seconds
- This focuses on patients still in the hospital system, while providing a platform for Management reporting and acts as an enabler for *safe, quality and timely care for patients* (NEAT)

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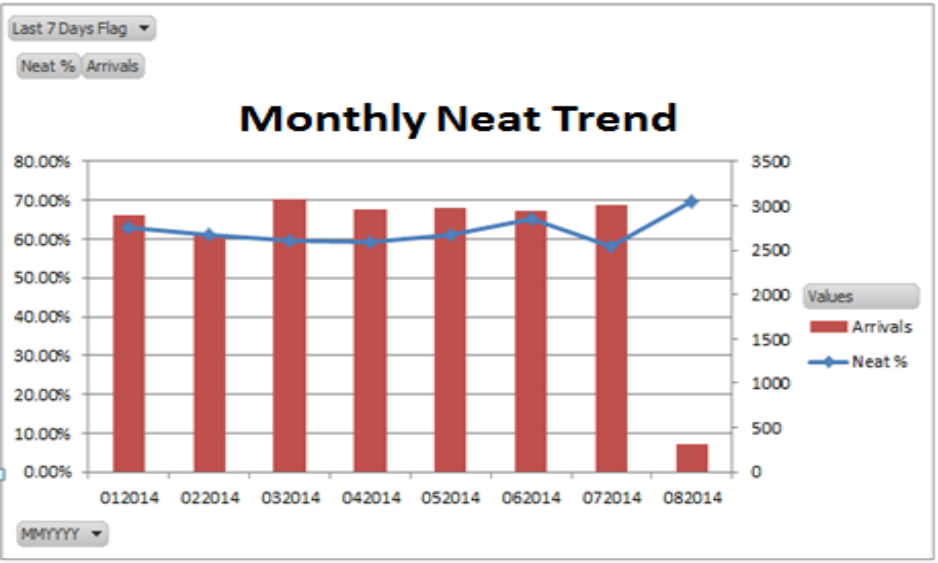
Example of Current Patients in WWBH ED (by Hour)

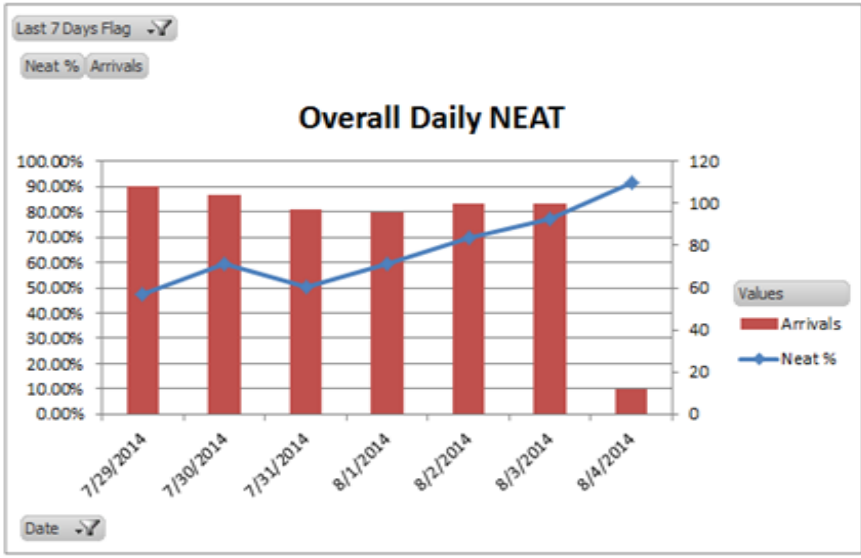
Deptarture_Statu	All
Last 7 Days Flag	Last 7 Days

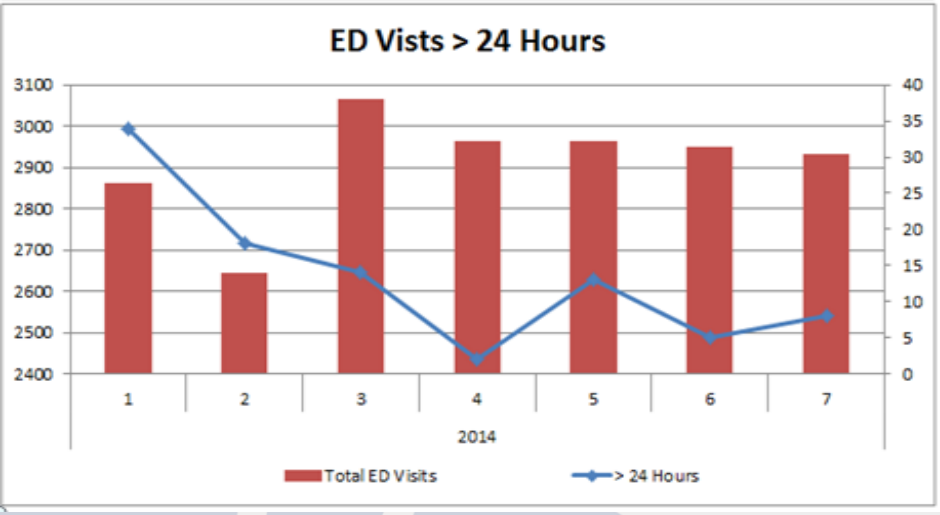
Date						
7/29/2014	7/30/2014	7/31/2014	8/1/2014	8/2/2014	8/3/2014	8/4/2014

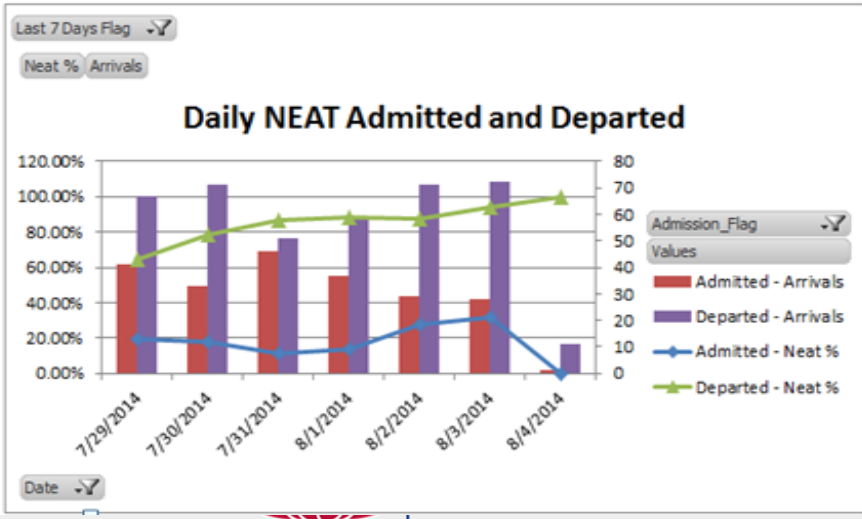
			Values			
Date	DayTimeBucket	HourlyBucket	Arrivals	% Paitents still in	Neat %	Triage %
8/4/2014	Evening (18:00 PM To 23:59 PM)	23:00-23:59				0
		22:00-22:59				0
		21:00-21:59				0
		20:00-20:59				0
		19:00-19:59				0
		18:00-18:59				0
	Mid Afternoon (14:00 PM To 15:59 PM	15:00-15:59				0
		14:00-14:59	6		100.00%	1
	Lunch (12:00 PM To 13:59 PM)	13:00-13:59	12		100.00%	0.625
		12:00-12:59	15		100.00%	0.4
	Mid Morning (9:00 AM To 11:59 AM)	11:00-11:59	11		100.00%	0.666666667
		10:00-10:59	10		40.00%	0.888888889
		09:00-09:59	18		33.33%	0.714285714
	AM Peak (7:00 AM To 8:59 AM)	08:00-08:59	12		50.00%	1
		07:00-07:59	3		66.67%	0.333333333
	Early Morning(03:00 AM To 6:59 AM)	06:00-06:59	5		60.00%	1
		05:00-05:59	1		100.00%	0
		04:00-04:59				0
		03:00-03:59	2		100.00%	1
	Late Night (00:00 AM To 02:59 AM)	02:00-02:59				0
		01:00-01:59	2		100.00%	1
		00:00-00:59				0
	PM Peak (16:00 PM To 17:59 PM)	17:00-17:59				0
		16:00-16:59				0
	-1	-1				0
						0
8/3/2014	Evening (18:00 PM To 23:59 PM)	23:00-23:59	4		100.00%	1
		22:00-22:59	11		81.82%	0.666666667

Real Time Neat KPI Result Dashboard









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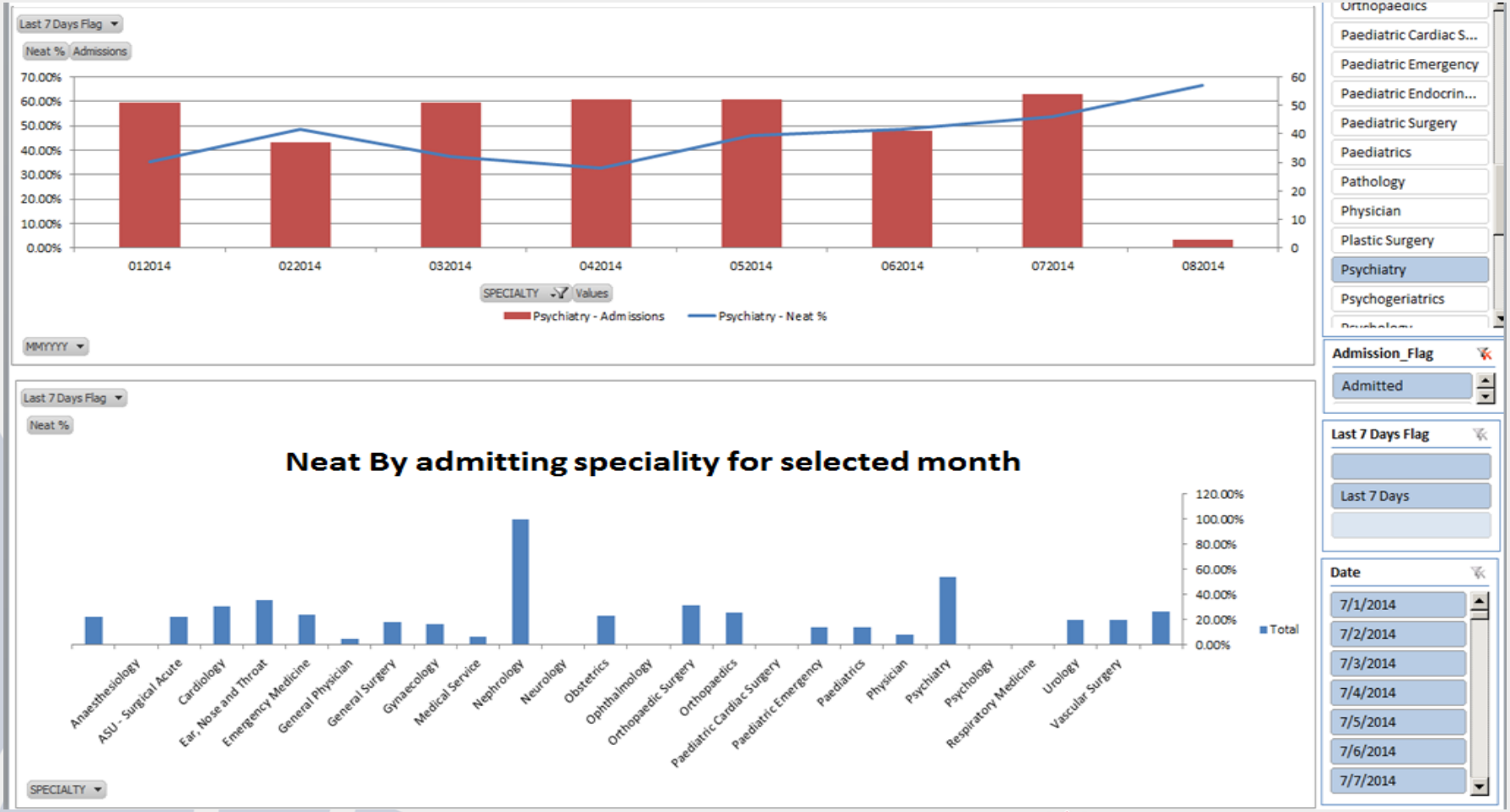
Monthly Neat by admitting specialty trend



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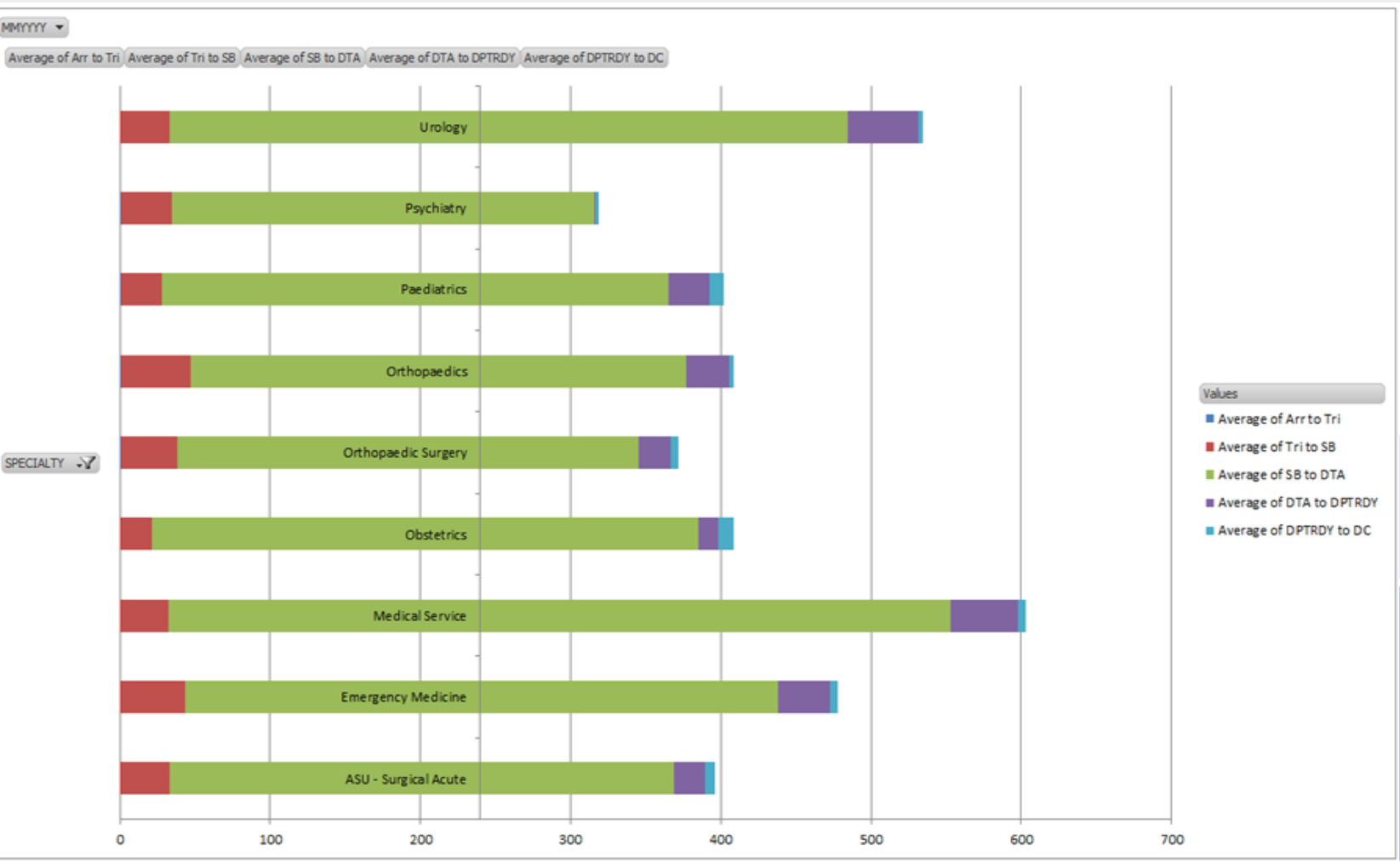
Average times (mins) for admitted patients



Average times (mins) for admitted patients

Month: 1, 2, 3, 4, 5, 6, 7, 8

Admission...: Admitted

Top 5 Orders by Medical Service

MEDICAL SERVICE	ORDER NAME	# Orders	Median Hours to Complete Turn Around	Avg Hours to Complete
Medical Imaging	Chest	254	23	23.21
	CTB Brain	123	1	1.82
	CT Abdo & Pelvis	66	0	-
	Chest (Mobile)	48	0	-
	Ultrasound Abdomen	41	2	3.17
Medical Imaging Total		**532**	**2**	**11.75**
Pathology Tests	Electrolytes Urea Creatinine Levels	765	1	0.75
	Full Blood Count	753	0	2.18
	Liver Functions	542	1	0.65
	Calcium Level	311	1	0.67
	Magnesium Level	307	1	0.69
Pathology Tests Total		**2678**	**1**	**1.12**

Facility: Emergency GR, Emergency WW

Date: 5/1/2014, 5/2/2014

ORDER_NAME

Insulin Antibodies	Insulin Level	Insulin Like Growth Factor 1	Iron Level	Iron Studies
Islet Cell Antibodies	Islet Cell Antigen 512 Antibodies	Isohaemagglutinins Quantitation	IVP	Jo-1 Antibodies
Ketones Quantitation	Kleihauer	Knee Left	Knee Right	Lactate Dehydrogenase Level
Lactate Level	Lamotrigine Level	Lateral Ceph	Leg/Knee L	Leg/Knee Left
Leg/Knee R	Leg/Knee Right	Legionella Nucleic Acid Detection	Legionella Serology	Leptospirosis Serology

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Future proposed Framework

- MLHD would like to be able to access all data as close to “live” as possible
- The data would include all parts of the records, not just the fields relevant to KPI’s
- Data would be modelled to allow ease of reporting and interrogation
- Data would be able to be integrated into any toolset that the district /individual user is conformable using.

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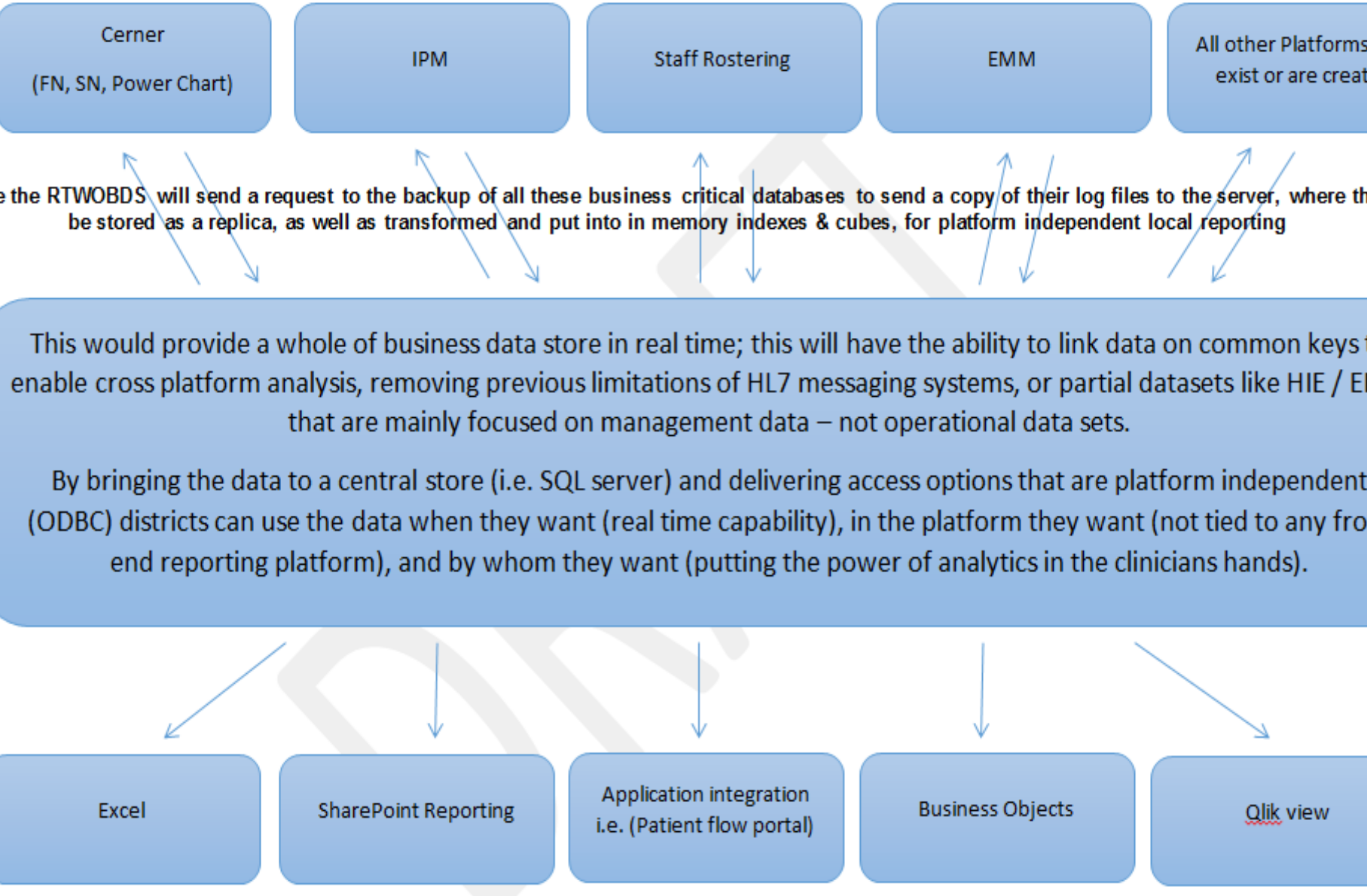
Real Time Whole of Business Data Store



igure 1: Data framework for BI reporting proposal