Enhanced Hospital Safety

Bluebird



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Bluebird's *Automated* Infection Surveillance

Automated surveillance (**reports**) of hospital infections is a simple, *cost effective, standardized* solution that *accurately* measures infection rates in healthcare facilities. It is the critical first step in empowering hospitals to combat Healthcare Associated Infections (HAI), perform antibiotic stewardship and enhance patient safety.

Knowing a healthcare facility's rate of infection with multi-drug resistant organisms (MDROs) is a **sentinel indicator** of patient safety *and* a critical measure of the success of that facility's antibiotic stewardship program. Annual antibiograms and the changes in antibiotic resistance over time is a foundation requirement of an antibiotic stewardship program. Antibiograms empower clinicians to prescribe antibiotics appropriate for a specific location in a hospital e.g. different resistance profiles are found in ICU compared to a surgical ward. If required this module can also produce a breakdown of which doctors prescribe which antibiotics which helps antibiotic stewards target certain drug orders.

The **complete** Bluebird Infection Control and Antimicrobial Stewardship solution (**case management**) has, over 10 years, proven extremely successful in helping more than 70 Southern African hospitals measure and proactively **manage** hospital infections and improve antibiotic use.

While all hospitals need to **objectively** measure their infection rates, not all hospitals have the resources to implement the complete Bluebird Infection Control and Antimicrobial Stewardship solution. To assist these facilities, an extremely *resource light* Bluebird application has been developed specifically to objectively measure a hospital's infection rate and provide annual antibiograms (cornerstones of antibiotic stewardship programs).

This document describes the Bluebird **Automated Infection Surveillance** module which is a critical tool to help measure healthcare associated infections and to provide a standardized baseline against which infective quality improvement interventions and antibiotic stewardship may be measured.

Superbug Risk in South African Hospitals

MDROs, including the bacteria that the Centre for Disease Control call "**Nightmare Bacteria**", are increasingly common in both private and public hospitals in South Africa. These life threatening infections pose a particular risk to newborn babies and to those undergoing elective surgery.

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A Sentinel Indicator of Patient Safety

There are few places where one is more vulnerable than after being admitted to hospital. Patients expect hospitals to take their safety seriously and not to expose them to unnecessary infective risk. Unfortunately, at least 10% of inpatients will develop an infection during their hospital stay.

Infection control in hospitals can be divided into:
1. Surveillance
2. Management (not covered in this paper)

Surveillance is essential in order to document the hospital's baseline infection rate. Knowing that baseline is important in order to measure the impact of interventions designed to reduce infection risk. Furthermore, standardization of measurement is critical so one knows that the measured change in an infection rate is actually due to the intervention and not to the vagaries of the measuring process. Unfortunately many hospitals do not adequately standardize their infection rates mainly because it is hard to do accurately. Bluebird makes this easy.

Surveillance may be:
1. Automated
2. Active (not covered in this paper - see intelms.com/177 for the full Bluebird solution)

Bluebird's **Automated** infection surveillance uses standard CDC algorithms and is **independent** of infection and prevention (IPC) classification **skills**. Automated surveillance saves many hours of IPC time. The range of automated reports available in Bluebird can be reviewed here: intelms.com/815 - pages 15-31, 81, 82.

Bluebird's **Active** infection surveillance also uses standard CDC algorithms but is **dependent** on infection and prevention (IPC) classification **skills** which means that the same infection rate can vary when determined by different IPCs. Active infection surveillance requires ICPs, antimicrobial stewards, Unit Managers and Unit clerks to be Bluebird Users supported by the Bluebird Support Desk. This significantly increases the cost of Bluebird *active surveillance* as compared to Bluebird *automated surveillance*.

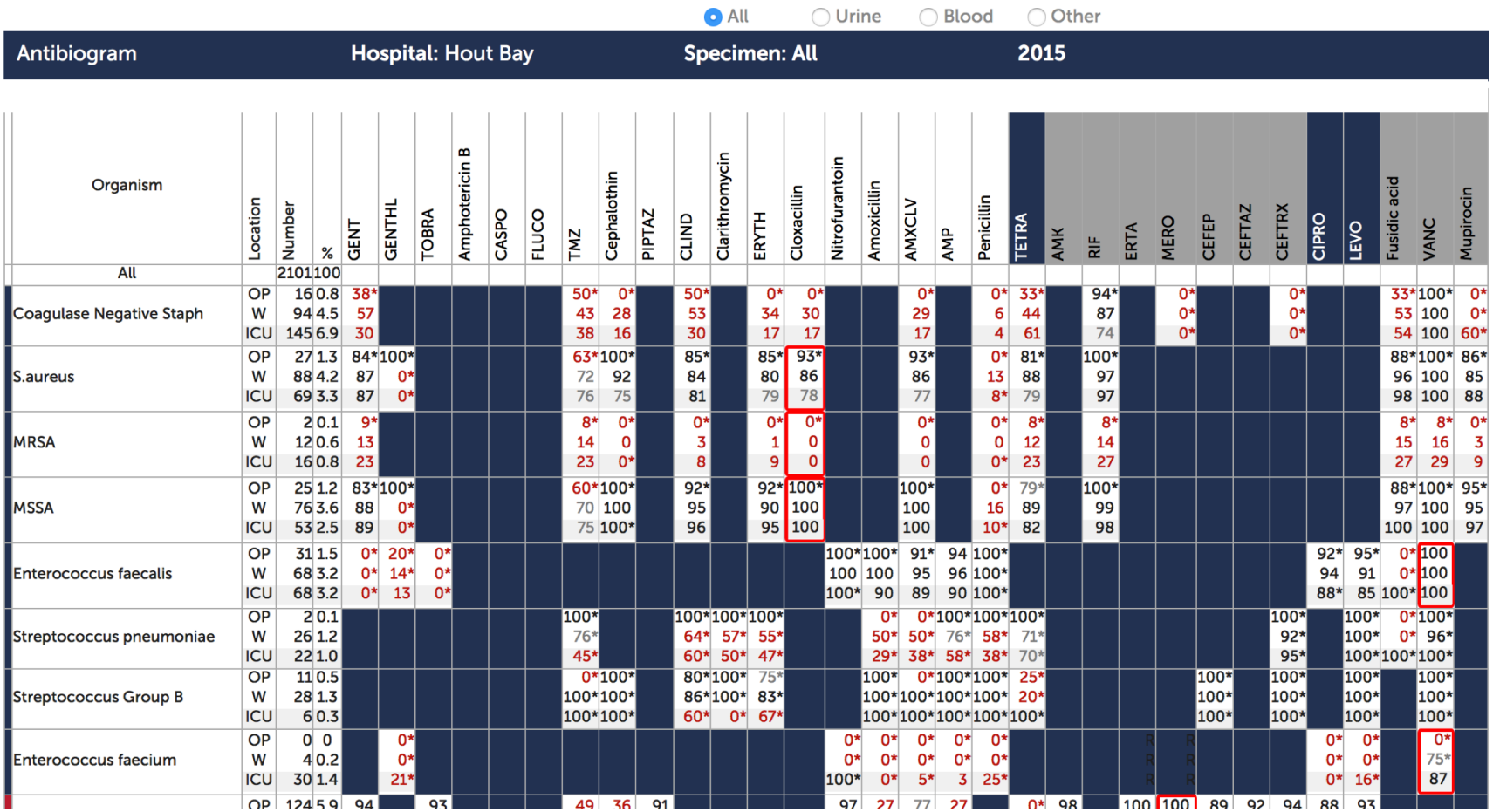
Automated surveillance of hospital infections is a simple, *cost effective, standardized* solution to *accurately* measure infection rates in healthcare facilities. It is a critical first step in empowering hospitals to combat Healthcare Associated Infections (HAI), perform antibiotic stewardship and enhance patient safety.

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Annual Antibiogram

Bluebird automatically creates the annual hospital antibiogram on the 1st day of each new year using the CLSI rules as published by the Australian Commission on Safety and Quality in Health Care.

Click the Organism header to sort by gram +ve / -ve / fungae. Use the specimen radio button to stratify by specimen. Antibiotics in white are first line, those in blue should be avoided in children.



Organism	Location	Number	%	GENT	GENTHL	TOBRA	Amphotericin B	CASPO	FLUCO	TMZ	Cephalothin	PIPTAZ	CLIND	Clarithromycin	ERYTH	Cloxacillin	Nitrofurantoin	Amoxicillin	AMXCLV	AMP	Penicillin	TETRA	AMK	RIF	ERTA	MERO	CEFEP	CEFTAZ	CEFTRX	CIPRO	LEVO	Fusidic acid	VANC	Mupirocin
All		2101	100																															
Coagulase Negative Staph	OP	16	0.8	38*						50*	0*		50*		0*	0*			0*		0*	33*		94*		0*			0*			33*	100*	0*
	W	94	4.5	57						43	28		53		34	30			29		6	44		87		0*			0*			53	100	0*
	ICU	145	6.9	30						38	16		30		17	17			17		4	61		74		0*			0*			54	100	60*
S.aureus	OP	27	1.3	84*	100*					63*	100*		85*		85*	93*			93*		0*	81*		100*								88*	100*	86*
	W	88	4.2	87	0*					72	92		84		80	86			86		13	88		97								96	100	85
	ICU	69	3.3	87	0*					76	75		81		79	78			77		8*	79		97								98	100	88
MRSA	OP	2	0.1	9*						8*	0*		0*		0*	0*			0*		0*	8*		8*								8*	8*	0*
	W	12	0.6	13						14	0		3		1	0			0		0	12		14								15	16	3
	ICU	16	0.8	23						23	0*		8		9	0			0		0*	23		27								27	29	9
MSSA	OP	25	1.2	83*	100*					60*	100*		92*		92*	100*			100*		0*	79*		100*								88*	100*	95*
	W	76	3.6	88	0*					70	100		95		90	100			100		16	89		99								97	100	95
	ICU	53	2.5	89	0*					75	100*		96		95	100			100		10*	82		98								100	100	97
Enterococcus faecalis	OP	31	1.5	0*	20*	0*											100*	100*	91*	94	100*									92*	95*	0*	100	
	W	68	3.2	0*	14*	0*											100	100	95	96	100*									94	91	0*	100	
	ICU	68	3.2	0*	13	0*											100*	90	89	90	100*									88*	85	100*	100	
Streptococcus pneumoniae	OP	2	0.1							100*			100*	100*	100*			0*	0*	100*	100*	100*							100*		100*	0*	100*	
	W	26	1.2							76*			64*	57*	55*			50*	50*	76*	58*	71*							92*		100*	0*	96*	
	ICU	22	1.0							45*			60*	50*	47*			29*	38*	58*	38*	70*							95*		100*	100*	100*	
Streptococcus Group B	OP	11	0.5							0*	100*		80*	100*	75*			100*	0*	100*	100*	25*					100*		100*		100*		100*	
	W	28	1.3							100*	100*		86*	100*	83*			100*	100*	100*	100*	20*					100*		100*		100*		100*	
	ICU	6	0.3							100*	100*		60*	0*	67*			100*	100*	100*	100*	100*					100*		100*		100*		100*	
Enterococcus faecium	OP	0	0		0*												0*	0*	0*	0*	0*									0*	0*		0*	
	W	4	0.2		0*												0*	0*	0*	0*	0*									0*	0*		75*	
	ICU	30	1.4		21*												100*	0*	5*	3	25*									0*	16*		87	
	OP	124	5.9	94		93				49	36	91					97	27	77	27		0*	98		100	100	89	92	94	88	93			

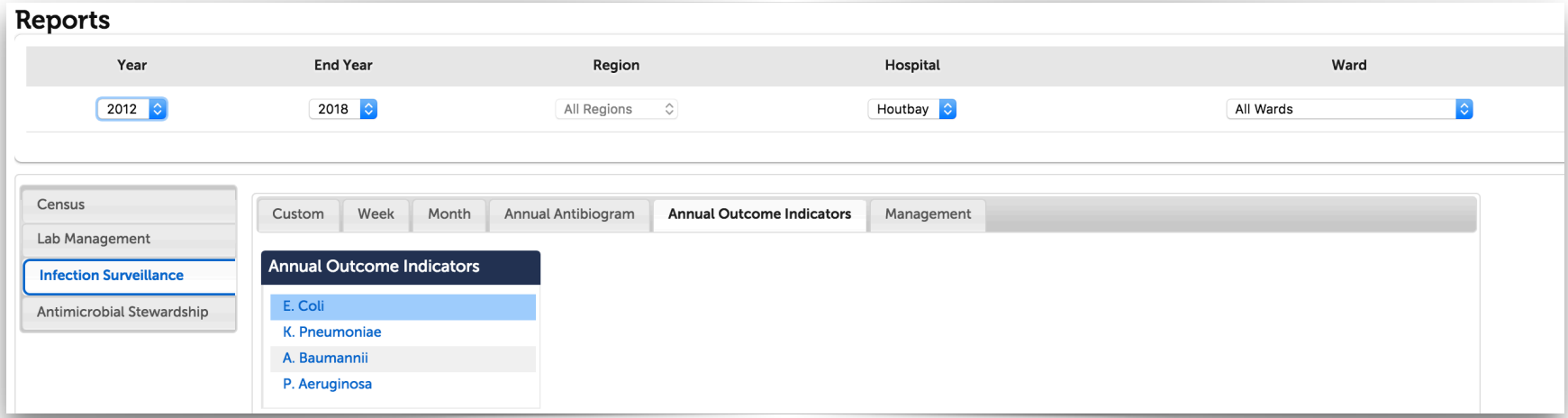
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Annual Outcome Indicators

Bluebird allows one to measure the change in resistance each year of the following 4 target G-ve bacteria:

- E Coli
- Klebsiella
- Pseudomonas
- Acinotobacter

You will need to select the **start** and **end** years.



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Pricing

Automated Surveillance Pricing (per hospital)

Set-up (Once off)	R 98 000	ex. VAT *
Monthly	R19 780 pm	ex. VAT

* **Note** than once set up, that hospital is set up for the full Bluebird EHR and will not attract a set up charge when that hospital decides to implement other Bluebird EHR modules.

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