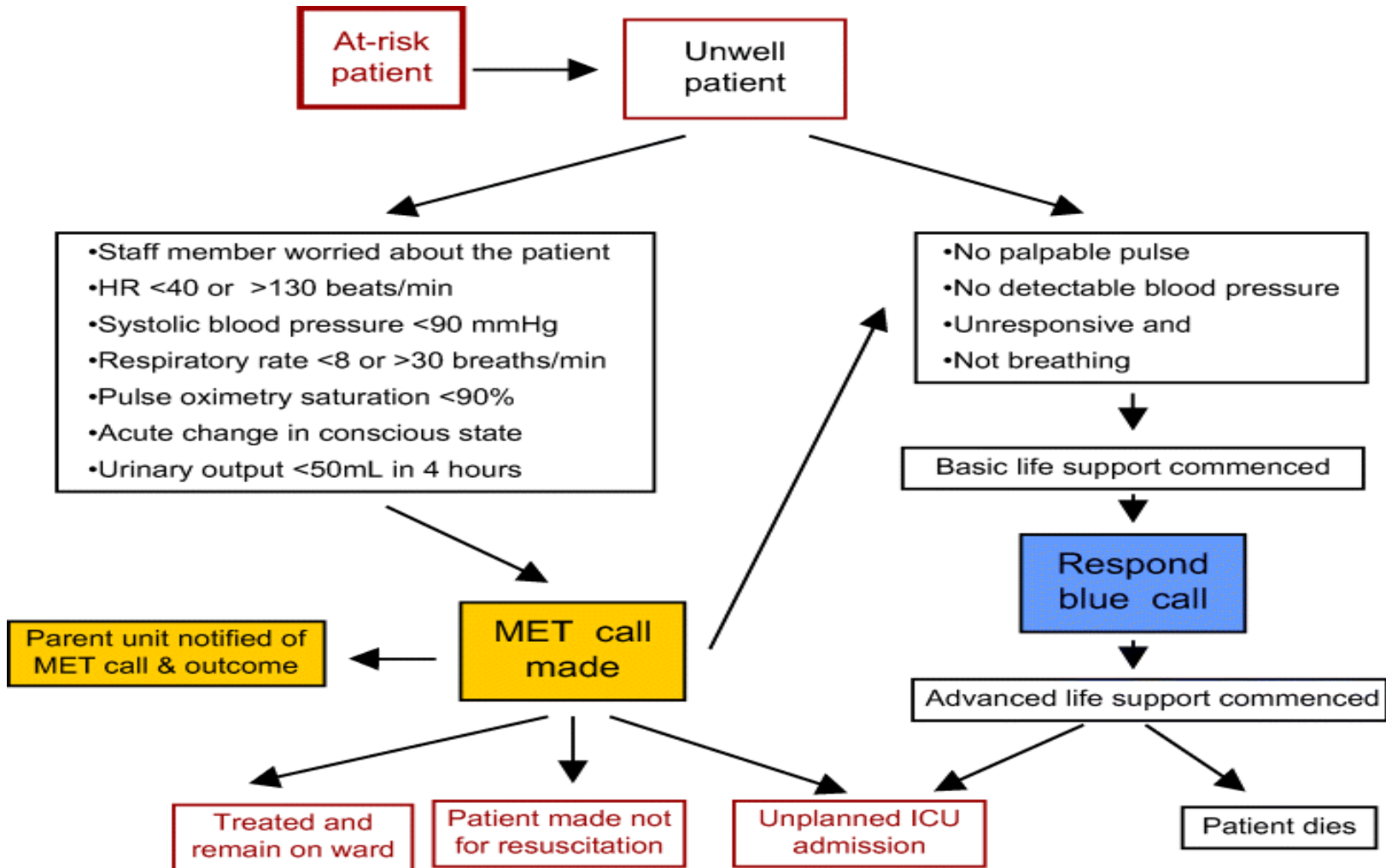
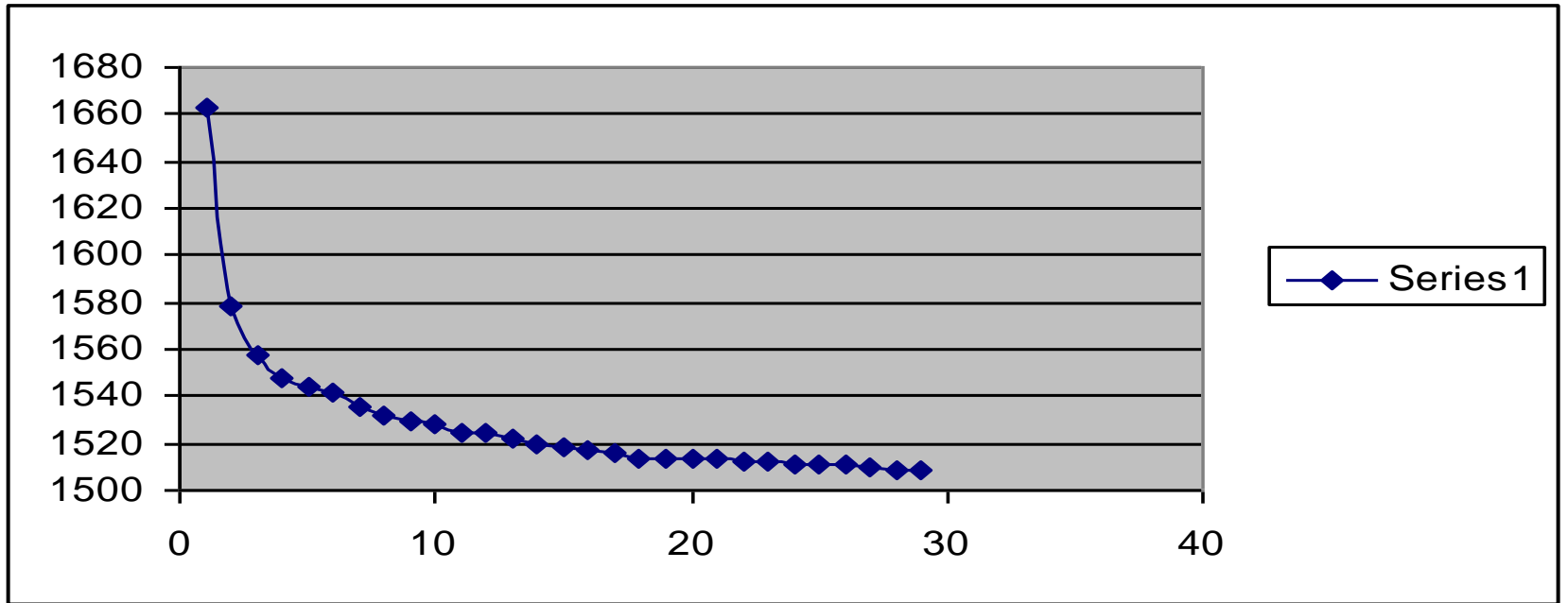


**Reduction of unexpected events in a Medical
Ward after Implementation of Early Warning
Score**

**J. do Campo, M. Anderson, R. Hayes, C. Shennan, A MacDonald.
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RACP Physician Week 2009**



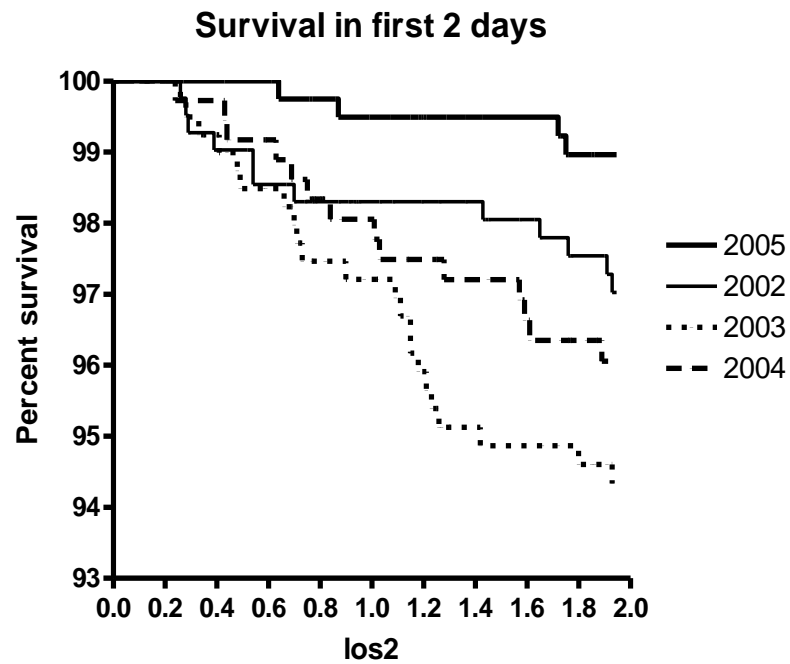
ICU Mortality 2001-04



ICU Mortality 2001-05

	2001	2002	2003	2004	2005
• Total ICU	443	410	348	389	333
• Total Death	68	53	73	53	51
• First 24-48hs	32	24	36	22	<u>10</u>

ICU Survival



Early Warning Score-08

Score	3	2	1	0	1	2	3
HR per minute		<40	41-50	51-100	101-110	111-129	>130
BP Systolic		<80	81-100	101-199		>200	
Respiration per minute	<8			9-14	15-20	21-29	>30
Conscious State	Un-responsive	Response Only to pain	Drowsy. Rousable to voice.	Alert			
Temperature		<35		35.1-37.5	>38.5		
Urine Output	Nil	<20 ml/2h	20-50 ml/2h	>50 ml/2h			

**If Patient Unwell or Condition Deteriorates.
Nurse caring for the patient assess and diagnose the problem.**

Evaluate ABC.

**A Severe airway compromise.
B Respiratory Rate <8 or > 40.
C Heart Rate <30 or >120.
Systolic Blood Pressure < 60
mmHg.
SpO₂<85%.
With one or more criteria.**

Activate Code Blue

NO Use Early Warning Score

**If score is 3 points or more:
Start Treatment including Oxygen.
Call for Senior Nurse in charge.
Call Home Team.
Rescore in 15 minutes.
Contact Consultant.
**If the condition is deteriorating rapidly or ward staff
concern. Activate Code Blue.****

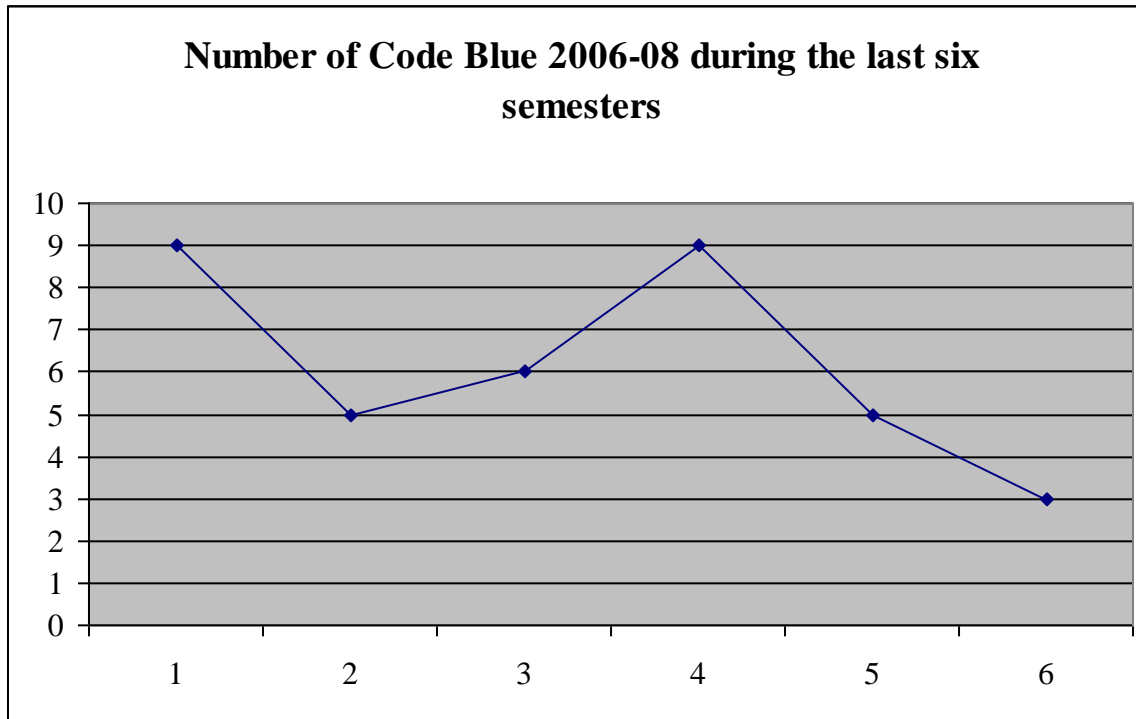
**Continue to score patient every 15 minutes.
If no improvement or score >5
Contact ICU Registrar.
Rescore every 15 minutes.
**If delay of more than 15 minutes. Activate Code
Blue****

**If EWS Improves
Continue regular
Observations**

Code Blue Ward 4D 2007-08

Year	2007	2008 January to June	2008 July to December
Total CB Ward	15	5	3
Syncope =	5 All survived	-----	1 Survived
Asystole =	2 #	1 #	
Respiratory	4 All survived	1 Survived	
EMD (*)	1 Survived		1#
Unknown	2 Survived		
VF arrest	1#	1 Survived	1Survived
Haematemesis	----	1 Suvived	
CVA	-----	1 Survived	

Code Blue Ward 4D 2006-2008



Early Warning Score-08

- **The EWS is a very useful tool to detect patients deteriorating their clinical condition and during the period it was implemented reduced the total number of Code Blue.**

The Early Warning Score Implementation
Reduced the number of unexpected deaths.

**do Campo J, Anderson M, Shennan C, Goss K, Roberts M,
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World Congress of Internal Medicine 2010

Early Warning Score-09

The EWS has opened an education pathway for bedside ward nurses, as they now incorporate basic intensive care nursing skills.

This has improved the Early Recognition of the Deteriorating Patient and reduced delay in intervention.

The junior doctors participate in the process giving priority to the EWS ward calls.

The nurses were able to contact the Consultant directly, resulting in better communication.

Early Warning Score-09

	January to June	July to December
Code Blue	54	51
Deaths	17	4

Fisher's Exact Test $p=0.0015$

Early Warning Score-10

Score	3	1	0	1	3
Temperature	<34.5C	<35.5C	35.5-38.4C	>38.5C	>40C
HR per minute	<40	41-50	51-105	106-119	>120
BP Systolic	<80	81-95	96-179	180-199	>200
Respiration per minute	<8		9-21	22-34	>35
Sp O₂xygen	<88%	89-93%	>94%		
Neuro Response	Response Only to pain- Unrousable	Drowsy - Rousable to voice.	Alert	Confused (New)	
Urine Output	Nil >2hrs Or Nil >12hrs	< 30 ml/2hrs Or Nil>6hrs	>30 ml/hr		

