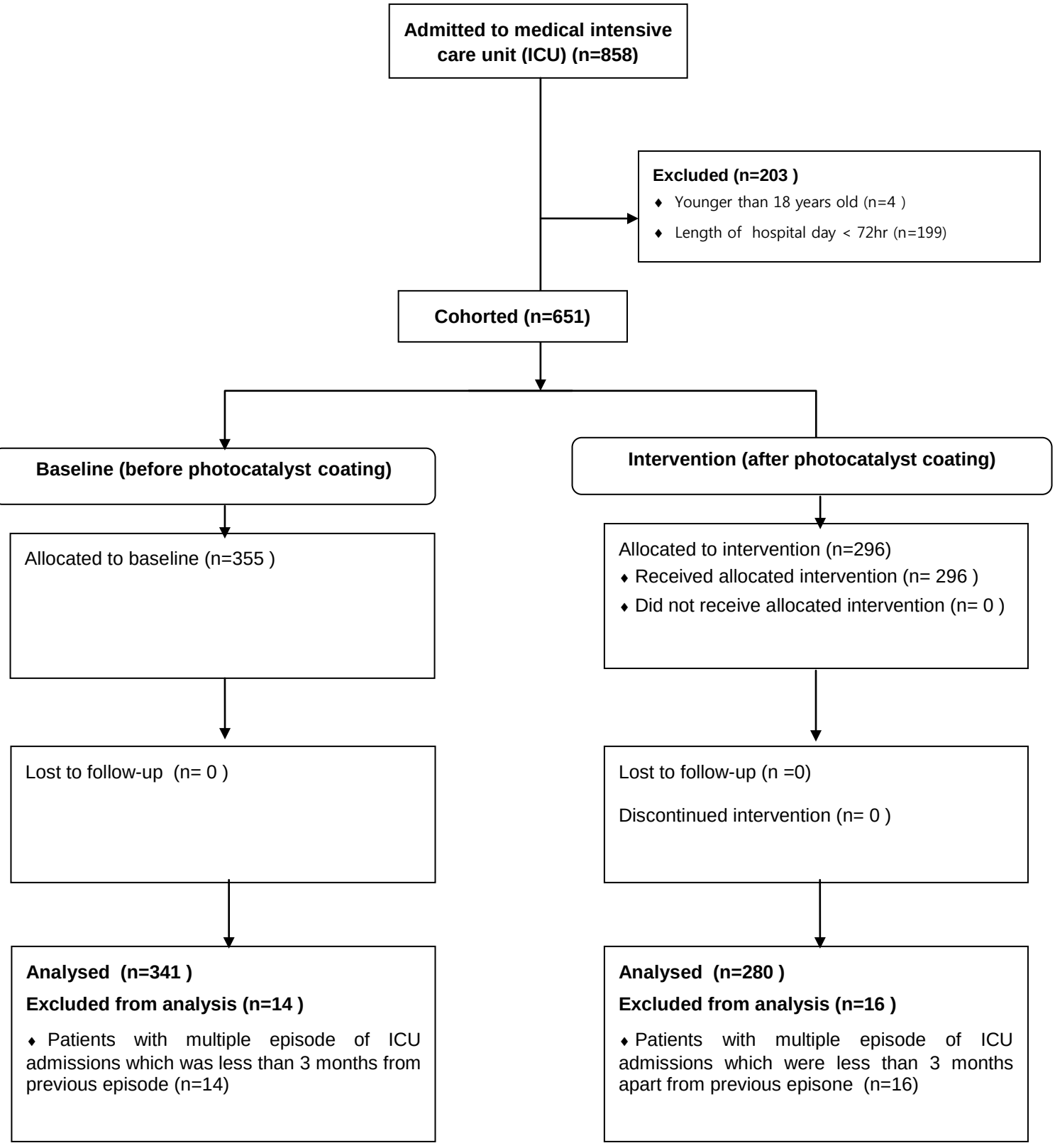
Participant Flow



Baseline Characteristics

Table 1. Baseline characteristics of the study population

Variables	Total	Baseline	Intervention	p-value
Patients, n	621	341	280	NA
Male gender, n (%)	370 (59.5)	199 (58.4)	171 (61.1)	0.55
Age (years)	67.56	67.13	68.08	0.43
Total patient days at risk	3171	1613	1558	0.24
Mean length of hospital stay	23.50	21.07	26.46	0.12
Mean length of ICU stay	4.87	4.30	5.40	0.11
Overall mortality, n (%)	85 (13.7)	48 (14.0)	37 (13.7)	0.91
Previous admission Hx. within 3 months, n (%)	139 (22.4)	66 (19.4)	73 (26.1)	0.06
Comorbidities				
Cardiovascular disease, n (%)	453 (72.9)	247 (72.2)	212 (75.2)	0.41
Diabetes, n (%)	195 (31.4)	111 (32.5)	84 (29.8)	0.49
Cerebro vascular accident, n (%)	264 (42.5)	146 (42.7)	118 (42.0)	0.87
Solid organ malignancy, n (%)	75 (12.1)	43 (12.6)	32 (11.3)	0.71
Hemaologic malignancy, n (%)	4 (0.6)	3(0.9)	1 (0.4)	0.63
Trauma Hx., n (%)	20 (3.2)	14 (4.1)	6 (2.1)	0.18
Chronic renal disease, n (%)	133 (21.4)	61 (18.1)	72 (25.5)	0.03
Chronic liver disease, n (%)	70 (11.3)	36 (10.5)	34 (12.1)	0.61
Chronic lung disease, n (%)	82 (13.2)	44 (12.9)	38 (13.5)	0.91
Connective tissue disease, n (%)	13 (2.1)	6 (1.8)	7 (2.5)	0.58
SOFA score	4 (2-7)	4 (2-7)	4 (2-6)	0.38

Invasive procedure				
Central line catheter insertion, n (%)	273 (44.0)	155 (45.3)	118 (41.8)	0.42
Intubation, n (%)	167 (26.9)	98 (28.7)	69 (24.5)	0.28
CRRTx.,n (%)	38 (6.1)	22 (6.4)	16 (5.7)	0.74
Operation history, n (%)	92 (14.8)	51 (15.0)	41 (14.6)	1.00
Median duration of antibiotics treatment	6 (0-15)	7 (0-15)	6 (0-16)	0.59
Vancomycin use, n (%)	70 (11.3)	36 (10.6)	34 (12.1)	0.61
MRSA acquisition prior to ICU admission	57 (9.2)	36 (10.5)	21 (7.5)	0.21
ICU bed occupancy, %	82.0	83.7	81.5	0.22
Hand hygiene compliance of all HCW	72.1	71.6	72.7	0.62
Hand hygiene compliance of physicians	54.2	53.8	54.6	0.48
Hand hygiene compliance of nurses	89.9	89.4	90.5	0.64

Data are expressed as the mea / median (Q1-Q3) or N (%). Abbreviation: NA, not applicable; ICU, intensive care unit; SOFA, sequential organ failure assessment; CRRTx., continuous renal replacement therapy; HCW, health care workers

Outcome Measures

Table 2. Comparison of MDRO acquisition rate and hospital acquired infection rates by study period

Variable	Baseline	Intervention	IRR	95% CI	p-value	HR [a]	95% CI	p-value
MRSA acquisition, n (%)	15 (4.4)	4 (1.4)			**0.01**			
MRSA acquisition rate per 1000 patient-days	9.30	2.57	0.26	0.06-0.81		0.37	0.14-0.99	**0.04**
VRE acquisition, n (%)	1 (0.9)	2 (1.1)			0.54			
VRE acquisition rate per 1000 patient-days	0.62	1.28	2.07	0.19-22.84				
MRAB acquisition, n (%)	5 (6.4)	5 (8.5)			0.76			
MRAB acquisition rate per 1000 patient-days	3.09	3.20	1.03	0.30-3.57				
Blood stream infection, n (%)	6 (1.8)	10 (3.5)			0.28			
Blood stream infection rate per 1000 patient-days	3.71	6.41	1.72	0.63-4.75				
Pneumonia, n (%)	26 (7.6)	12 (3.2)			**0.03**			
Pneumonia rate per 1000 patient-days	16.12	7.70	0.48	0.24-0.95		0.47	0.23-0.94	**0.03**
Urinary tract infection, n (%)	9 (2.6)	5 (1.8)			0.32			
Urinary tract infection rate per 1000 patient-days	5.58	3.21	0.57	0.19-1.71				
CDAD, n (%)	2 (0.6)	1 (0.4)			0.58			
CDAD rate per 1000 patient-days	1.23	0.64	0.52	0.05-5.70				

The incidence rate ratio was obtained by dividing the incidence rate in intervention period by the incidence rate in baseline period. Abbreviation: IRR, incidence rate ratio; CI, confidence interval; HR, hazard ratio; MRSA , methicilline resistant *S.aureus*; VRE, vancomycin resistant *Enterococcus spp*.; MRAB, multidrug resistant *A.baumannii*; CDAD, *Clostridium difficile* associated diarrhea

[a]Hazard ratio was calculated using a multivariate Cox proportional hazards model, adjusted for length of ICU stay, SOFA score and having or not chronic renal diseases.

Adverse Events

There were no adverse events associated with this trial