

# BTS NATIONAL RESPIRATORY SUPPORT AUDIT 2023

## PATIENT LEVEL DATA

GENERAL INFORMATION

### WHAT IS AN RSU

A dedicated hospital ward area for people with serious lung problems that provides:

- Continuous monitoring and advanced respiratory treatments.
- Delivered by specially trained health professionals.
- Staffing levels higher than for standard wards.

### PURPOSE OF AUDIT



To determine if RSUs affect patient outcomes, and to see the difference across hospitals with and without RSUs.

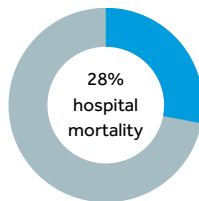
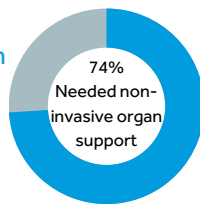
60% of hospitals had an RSU despite all providing enhanced respiratory ward care.

### PATIENT POPULATION

Adults with life-threatening acute lung disease who were managed in an RSU, or should have been had an RSU been available.

### GENERAL DEMOGRAPHICS

 4,136 Adult Patients with Life-Threatening Acute Lung Disease  
 Seen In 119 Hospitals



### LOCATION OF CARE

RSU Equipped Hospitals		Hospitals With No RSU	
66%		34%	
RSU	Standard Ward	Resp Ward	HDU
42%	30%	21%	7%

OUTCOMES

### EFFECT OF PLACE OF CARE ON PATIENT OUTCOMES

These differences could not be explained by minor differences in patient demographics.

Patients Treated in an RSU



23% Hospital Mortality

VS.

31% For All Others

Treated anywhere in an RSU-equipped hospital



24% Hospital Mortality

VS.

35% For All Others

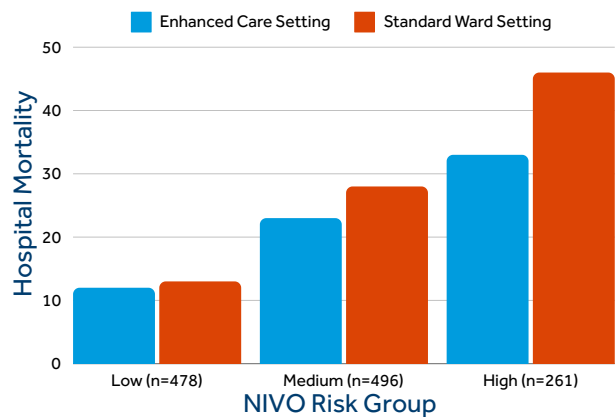
### IMPROVED SURVIVAL RATES IN WARDS WITH ENHANCED NURSING STAFFING

Case-mix adjusted outcomes for patients with COPD and treated with NIV showed that the sickest patients gained the greatest benefit of enhanced care.

The following graph shows hospital mortality according to patient risk group and whether they received 1:2 - 1:4 nurse/patient ratio or standard ward care (1:4 - 1:8).

For every 8 high-risk patients treated in an RSU, 1 additional patient survived to discharge compared to standard ward care.

Patients With COPD And Treated With Acute NIV



CAPACITY

If present, RSUs typically had insufficient capacity, yet critical care transfers were extremely low across the whole cohort

36%

Patients in RSU hospitals not admitted to an RSU

13%

Patients in RSU started on NIV but stepped down for most of their RSU-level care

3%

Of whole patient cohort transferred to critical care

### Improvement Goals for NHS Services To Attain Within 12 Months

Each hospital that admits patients with acute lung disease should have an RSU or RSU equivalent to provide enhanced care.

Current: 60%  
Target: 100%

Acute respiratory support (NIV, HFT, CPAP) for patients with acute lung disease should be delivered in an RSU or equivalent area with appropriate staffing levels (including HDU and critical care areas) and not used routinely in unenhanced, standard ward areas.

Current: 49%  
Target: >75%

Patients with COPD who experience early NIV failure (within 2 days of starting) in the absence of high-risk prognostic factors (e.g. if NIVO score < 5) should be discussed with critical care to consider the merits of treatment escalation.

Current: 17%  
Target: >50%

NATIONAL IMPROVEMENT OBJECTIVES

# BTS NATIONAL RESPIRATORY SUPPORT AUDIT 2023

## ORGANISATIONAL LEVEL DATA- RSU VS NON-RSU DATA

### GENERAL DEMOGRAPHICS



115 Hospitals:

- 60% had a designated RSU.
- 40% did **not** have a designated RSU, but provided enhanced respiratory care outside a critical care area.

### WHAT IS AN RSU

A dedicated hospital ward area for people with serious lung problems that provides:

- Continuous monitoring and advanced respiratory treatments.
- Delivered by specially trained health professionals.
- Staffing levels higher than for standard wards.

### STANDARDS

Standards for Enhanced Respiratory Care:

There should be **medical, nursing, and physiotherapy leads** for the RSU.

Consultants should all have experience and competence in the management of complex respiratory conditions with **24/7 cover** available from the same pool of consultants who deliver daytime work.

BTS recommends **1:2 nursing care** for all patients treated with acute NIV until NIV requirements reduce to nocturnal use only.

There should be **7-day physiotherapy cover**, **7-day access to pharmacist and microbiology advice**, and at least **5-day access to other services** including speech and language therapy, occupational therapy, dietetics, specialist palliative care teams and psychology.

Continuous monitoring (saturations, blood pressure, ECG) should be available at each bedspace and displayed centrally on the RSU.

All ventilators used to deliver acute NIV should be **designed for this purpose**.

### DATA FROM ALL HOSPITALS

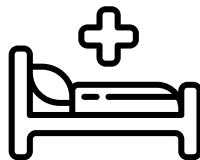
17% 1:2 Routine Nurse Staffing  
39% 1:2-1:4 Routine Nurse Staffing  
44% 1:4-1:8 Routine Nurse Staffing  
30% 24/7 Consultant Respiratory Cover  
91% 7/7 Physiotherapy Cover  
47% Central Monitoring  
62% Use of Acute Ventilators

### DATA FROM RSU HOSPITALS

25% 1:2 Routine Nurse Staffing  
46% 1:2-1:4 Routine Nurse Staffing  
29% 1:4-1:8 Routine Nurse Staffing  
39% 24/7 Consultant Respiratory Cover  
93% 7/7 Physiotherapy Cover  
64% Central Monitoring  
64% Use of Acute Ventilators

### DATA FROM NON RSUS

4% 1:2 Routine Nurse Staffing  
28% 1:2-1:4 Routine Nurse Staffing  
68% 1:4-1:8 Routine Nurse Staffing  
15% 24/7 Consultant Respiratory Cover  
89% 7/7 Physiotherapy Cover  
22% Central Monitoring  
59% Use of Acute Ventilators



### CONCLUSIONS

This audit shows wide variation in UK services; few services met key national standards for staffing or environment, and 40% of hospitals did not have an RSU at all. This leads to unequal care across the NHS. Each hospital that admits patients with acute lung disease should have an RSU or RSU equivalent to provide enhanced care.