Introduction:
Lung protective ventilation (LPV) strategies, principally focused around the use of tidal volumes <6 ml/kg predicted body weight (PBW) remains an enduring standard of care for ventilated patients. However, implementation of and compliance with LPV is highly variable. We used ‘nudge’-based interventions to assess if these can improve LPV.

Methods:
Ventilation data analysis over 2 years (186000 hours in 685 patients) showed patients had been ventilated with a median tidal volume of 7.4 ml/kg PBW with a significant proportion receiving over 8 ml/kg PBW (Fig 1), an effect more pronounced in female patients and those with higher BMI.

Interventions:
1) Creation of a software tool to easily identify and monitor patients receiving tidal volumes that were too high for their PBW
2) Attached laminated reference guides to each ventilator to calculate PBW
3) Presentation, opportunistic education and verbal prompts to relevant clinical care staff regarding importance of LPV and use of PBW rather than actual body weight
4) Incorporating checking of tidal volumes on a daily ward rounds from junior clinical members

Results:
We collected hourly ventilation data of the patients over a 2-week period (2479 hours in 22 patients) following our interventions. There was, overall a statistically significant reduction tidal volume (p<0.001). There was improvement in the ventilation of male patients (p<0.001) but female patients endured higher tidal volumes. There was a mixed picture in different BMI grades.

Conclusion:
Reducing tidal volumes in mechanically ventilated patients can be done through a mix of behavioural and educational interventions, as well as using technological shortcuts. This helps to reduce the effort on the part of clinical staff to adhere to best practices, and ultimately improve patient outcomes.
Distribution of tidal volumes recorded over a period of 2 years on the unit.