Introduction:
Fluid therapy remains the cornerstone of shock resuscitation, but recent studies have highlighted the potential dangers of fluid overload, and protocols have been established to apply responsible fluid resuscitation. However, studies show that adherence to protocols by healthcare providers remains a challenge. The present study researched the effect of a change in organizational measures on (para)medical behavior and adherence to fluid resuscitation protocols.

Methods:
Fluid balances (FB) of post-cardiac surgical patients, 12 hours after ICU admission, were retrospectively evaluated after introduction of two different organizational measures, designed to (unconsciously) influence (para)medical behavior. Patients were divided into three groups: group A received 500ml fluid challenges, group B received 250ml fluid challenges and group C had a continuous FB registration throughout the entire hospitalization.

Results:
3 × 250 patients were included in the study. No significant differences were found across demographic features. The FB was significantly lower in group C in comparison to group A and B, (1.6 [0.7-2.6] L versus 2.8 [1.0-3.8] L and 2.8 [1.9-3.8] L respectively; (p<0.001)) (Fig.1). In a multivariate analysis FB was independently associated with: group C (p<0.001), a history of diabetes (p=0.03), the Acute Physiology and Chronic Health Evaluation III score (<0.001) and the duration of aortic-cross clamp (p<0.001).

Conclusion:
The main findings of this study substantiated the hypothesis that the introduction of continuous FB-tracking throughout the entire care process, is associated with a significant reduction in the administration of fluids in post-cardiac surgery patients, independent of differences in their baseline characteristics. Demonstrating that certain organizational changes can influence medical behavior beyond the scope of teaching and instruction, and therefore serves to provide awareness to the current issue known as ‘knowledge-to-care gap’.
Cumulative fluid balance in the first 12 hours after start of cardiac surgery

$p < 0.001$

$\begin{array}{ccc}
\text{Group A} & \text{Group B} & \text{Group C} \\
\text{500 ml} & \text{250 ml} & \text{Continuous fluid balance}
\end{array}$

$\text{Cumulative fluid balance in the first 12 hours after start of cardiac surgery}$