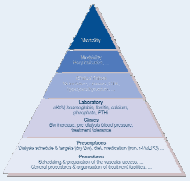

EuCliD®

IMPROVEMENT OF DIALYSIS QUALITY ACCORDING TO LEGALLY ADVISED BENCHMARKING IN GERMANY

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Introduction

With the overall objective to improve the quality of dialysis in Germany all private dialysis units are legally obliged to follow special guidelines on quality outcome starting from June 2006. Accordingly, each individual unit has to prove the dialysis quality delivered to their patients by officially participating in a benchmarking system and by regularly providing the local Associations of CHI Physicians (Kassenärztliche Vereinigungen) with key data on dialysis treatment. Four key indicators on dialysis adequacy and anaemia have to be provided on a quarterly basis. The defined targets are single pool Kt/V ≥ 1.2, treatment time ≥ 240min., treatment frequency ≥ 3 sessions/week and haemoglobin (Hb) ≥ 10 g/dL which have to be achieved by 85% of the patients. Since 2003 some units already started to participate in the benchmarking system EuCliD® on a voluntary basis. The aim of this study was to investigate the effect of benchmarking on quality improvements in those German units.

Fig. 1. Development of Body weight (kg) after EuCliD Initiation

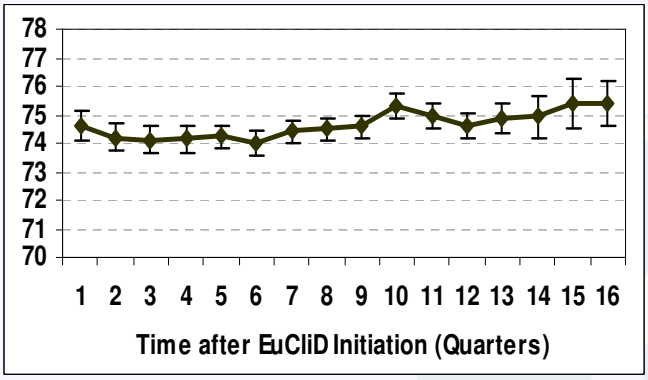


Fig. 2. Development of Body Mass Index (kg/m2) after EuCliD Initiation

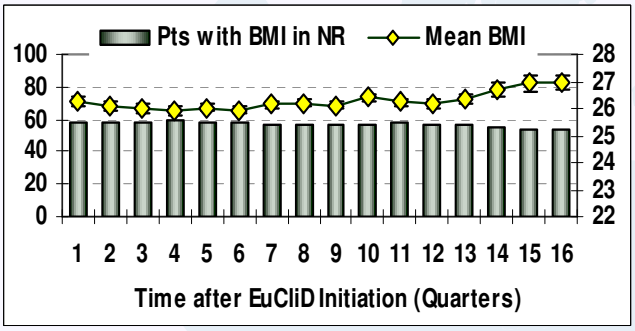
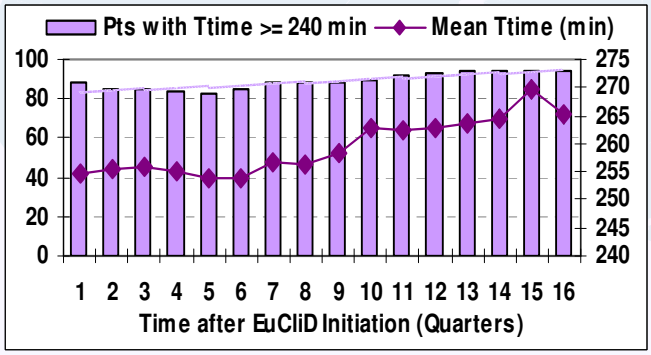


Fig. 3. Development of Treatment time (min) after EuCliD Initiation



Tab. 1. Treatment frequency over time

Quarters	Q1	Q4	Q8	Q12	Q16
No. of sess./week	2.91 ± 0.49	3.01 ± 0.48	2.98 ± 0.18	3.02 ± 0.29	3.02 ± 0.53
Pts on ≥ 3 sess./week	92%	94%	97%	98%	94%

Materials and Methods

The above-mentioned key indicators were selected as quality markers. Data were collected prospectively in 40 German dialysis units using the database EuCliD®. 4400 prevalent HD patients being on dialysis for more than 90 days from December 2000 to November 2006 were followed over a period of 4 years. The 4 key indicators were evaluated by quarterly means (± SD) starting with the 1st quarter (Q1) after the implementation of the benchmarking system. Significant changes over time were tested by one-way ANOVA (SPSS Version 14) with a significant level of $p < 0.01$.

Results

Mean age at admission to the unit was 63.4 ± 15.1 years (males: 56.6%), time on dialysis 3.7 ± 2.7 years. With an incremental proportion of obese patients (BMI M > 27.8 & F > 27.3 kg/m^2: 34.7 vs 38.1%) dry body weight and BMI increased from 74.6 ± 15.4 to 75.4 ± 17.4 kg and 26 ± 5 to 27 ± 6 kg/m^2, respectively (BMI $p < 0.01$) during the observation period (Fig. 1,2). The prescribed treatment time was on average significantly longer in Q8, Q12 and Q16 ($p < 0.01$) than in Q1 (Fig. 3). The increase was accompanied by an increasing proportion of patients being treated longer than 4 hours and a higher proportion of patients on more than 3 sessions per week (Tab. 1). Significantly higher mean values of single pool Kt/V were reached in Q8, Q12 and Q16 ($p < 0.001$). At the same time a continuously increasing proportion of patients achieved the target of spKt/V ≥ 1.2 (Fig. 4). There was a significant increase in mean haemoglobin over the whole observation period though it tends to decrease during the last 3 quarters (Fig. 5).

Discussion

Already one year after the implementation of the benchmarking system EuCliD® the first improvements were observed with respect to the defined targets. After 4 years the threshold of 85% of patients was achieved for all 4 indicators. Despite the increasing trend in body weight and BMI the Kt/V target was reached. As the benchmark system EuCliD® evaluates more than those 4 key indicators mentioned in this study, it delivers an even more sophisticated analysis for the assessment of dialysis quality than actually required by German regulations. This might lead to further quality improvements in the participating dialysis units.

Conclusion

In conclusion, the EuCliD benchmarking system is able to support nephrologists in the achievement of the legally given targets on dialysis quality in Germany.

Fig. 4. Development of spKt/V after EuCliD Initiation

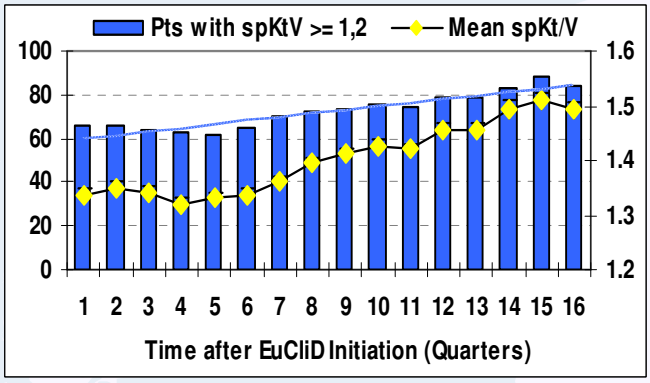
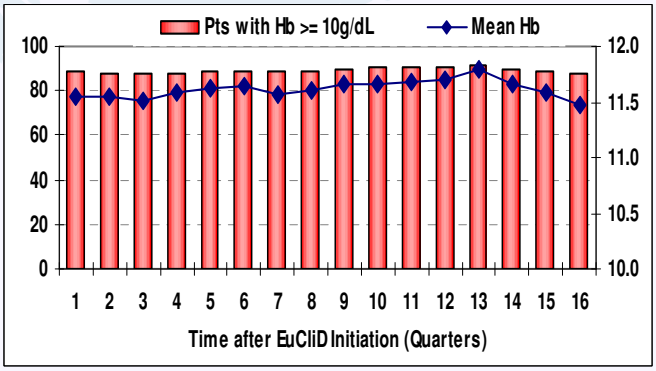


Fig. 5. Development of Haemoglobin level (g/dl) after EuCliD initiation



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