AN IMPACT OF DIABETIC KETOACIDOSIS GUIDELINES IMPLEMENTATION ON INTERNAL MEDICINE RESIDENTS’ LEVEL OF KNOWLEDGE AND PATIENT CARE. NB Volkova, CC Fletcher, RW Tevendale, SM Munyaradzi, S Elliot, MW Peterson. UCSF-Fresno, Fresno, CA

**Background:** Diabetic ketoacidosis (DKA) is an emergency medical condition that can be life-threatening if not managed properly. We designed DKA management guidelines based on the current American Diabetes Association recommendations. No previous studies have been done to demonstrate the effects of DKA guidelines on the residents’ knowledge, quality of patient care and financial impact on the hospital.

**Design:** Longitudinal case-control study with two arms: educational and patient care/financial impact. An electronic web-based assessment/educational tool was used to evaluate DKA knowledge level in Internal Medicine residents. Multiple aspects of patient care, length of hospital stay and hospital charges were compared before and after guidelines implementation. The same measures were used for analysis in a non-teaching local hospital where no DKA guidelines were implemented.

**Methods:** A Web-Based testing software (TestWare) was used for educational/assessment testing before and after DKA guidelines implementation. Resident level of knowledge, reflected by test scores, was compared to residents at the same level of training. All patients admitted during one calendar year were included in the study. Comparisons between two hospitals were done and each patient chart was reviewed to analyze the degree of compliance and changes in patient care cost before and after DKA guidelines introduction.

**Results:** The total number of Internal Medicine residents tested before and after the DKA guidelines implementation was 37 and 65 respectively. Testing scores improved from 48% to 54% after implementation of the guidelines ($P=0.06$). The total number of patients was 178. Overall, the degree of compliance with current guidelines improved in both hospitals (49% before to 77% after at Community Medical Center ($P<0.05$) versus 67% and 88% at University Medical Center ($P<0.05$)). An increase in hospital charges without changes in the length of hospital stay was noted.

**Conclusion:** The Web-Based educational/assessment testing tool was effective, leading to improvement on average in the knowledge level by 9%. The introduction of DKA guidelines after web-based testing significantly improves care for patients with DKA. Web based educational/assessment testing followed by DKA guidelines implementation can be utilized in any hospital striving to improve quality of care for DKA patients.