Community-based dental education (CBDE) has been shown to improve predoctoral students' overall competence by providing increased clinical experiences in an environment that mimics private practice. East Carolina University School of Dental Medicine (ECU SoDM) has a CBDE model that includes three nine-week rotations during year four at Community Service Learning Centers (CSLCs) located in rural counties throughout North Carolina, in addition to the main facility, Ross Hall (RH) in Greenville, NC. Objectives: To determine if students experience more patient visits and complete more clinical procedures at CSLCs versus RH. Methods: De-identified data on the graduating classes from 2015-2019 were retrieved from the electronic health record system. Student-patient visits and completed procedures were indexed by week, averaged by class, stratified by setting, and grouped by discipline. Statistical comparisons were made using t-tests. Results: When the data were pooled for all five classes, students experienced a significantly higher average of patient visits per week at CSLCs versus RH (p<0.01) and completed more clinical procedures per week on average at five classes, students experienced a significantly higher average of patient visits per week at CSLCs versus RH (p<0.01). In addition, students on average completed more clinical procedures per week at CSLCs versus Ross Hall (p<0.01). The marked increase in restorative and surgical procedures completed by D4 students versus RH suggests that the CBDE model at ECU SoDM is preparing students for dual-purposed: to advance the education of future oral health professionals while providing experiences for future classes at ECU SoDM.

The objectives of the project are the following:

- Determine if fourth year dental students experience a greater number of patient visits while at CSLCs versus Ross Hall
- Determine if fourth year dental students complete more clinical procedures while at CSLCs versus Ross Hall
- Compare the dental disciplines of completed procedures at CSLCs versus Ross Hall

Hypothesis: Fourth year dental students experience increased patient visits and complete more clinical procedures at CSLCs than at Ross Hall.

**MATERIALS & METHODS**

For this study, de-identified data on the 260 students from the graduating classes from 2015-2019 were retrieved from the electronic health record system based on completed ADA codes. For each graduating class, the data gathered included the total number of procedures completed at RH, the total number of procedures completed at CSLCs, the total number of student-patient appointments at RH, and the total number of student-patient appointments at CSLCs. The mean and standard deviation were standardized per week for the procedures and appointments at RH and at CSLCs. The types of procedures were averaged based on the entire fourth year and stratified by discipline including diagnostic, preventative, restorative, periodontics, removable prosthodontics, fixed prosthodontics, oral surgery, orthodontics, and miscellaneous. Statistical comparisons between the mean number of procedures completed per week and the mean number of student-patient appointments experienced per week by D4 students at RH versus at CSLCs were made using t-tests.

**RESULTS**

In general, mean patient visits and completed procedures increased incrementally with each graduating class. When the data were pooled for all five graduating classes, students experienced significantly higher mean patient visits per week at CSLCs versus RH (p<0.01). In addition, students on average completed more clinical procedures per week at CSLCs versus RH (p<0.001). These differences were especially pronounced for restorative and surgical procedures.

**DISCUSSION**

Overall, the data gathered in this study support the hypothesis that The ECU SoDM CBDE model is providing greater clinical learning experiences for fourth year dental students. This conclusion is based on the opportunity for D4 students to experience an increased number of student-patient appointments and to complete more clinical procedures at CSLCs than at RH. The data from the class of 2015, the first graduating class from ECU SoDM, does not support this hypothesis; however, the CSLC model has improved over time with each subsequent class. The marked increase in restorative and surgical procedures completed by D4 students at CSLCs versus RH suggests that the CBDE model at ECU SoDM is preparing students for successful practice following dental school by providing increased opportunities to establish competence and improve proficiency in these general dentistry disciplines. Future research could be done to ensure that this CBDE model continues to provide greater clinical learning experiences for future classes at ECU SoDM.

**REFERENCES**