

BACKGROUND

Statement of Rationale or Need for Change

The East Carolina University School of Dental Medicine (ECU SoDM) had an excessive amount of bloodborne pathogen exposures in 2015, leading to a meeting with ECU Prospective Health to determine causes for the high number of exposures and possible solutions that would limit the risk of exposure. Safety is essential in any healthcare organization, but it is critical in combined patient care/educational settings, since habits learned in the course of patient care at school will likely be a part of the skills brought into private practice after graduation.

Dental schools are unique in that they are basically "dental hospitals," where the classroom in the third and fourth years of school are the clinics where students treat their patients. ECU SoDM is even more unique because of the ECU Clinical Model. The fourth-year students at ECU SoDM rotate out for three, nine-week sessions to Community Service Learning Centers (CSLCs), which are located throughout the state of North Carolina. These CSLCs are basically mini dental school clinics, where faculty, staff, residents, and students treat patients in the most underserved areas of the state.

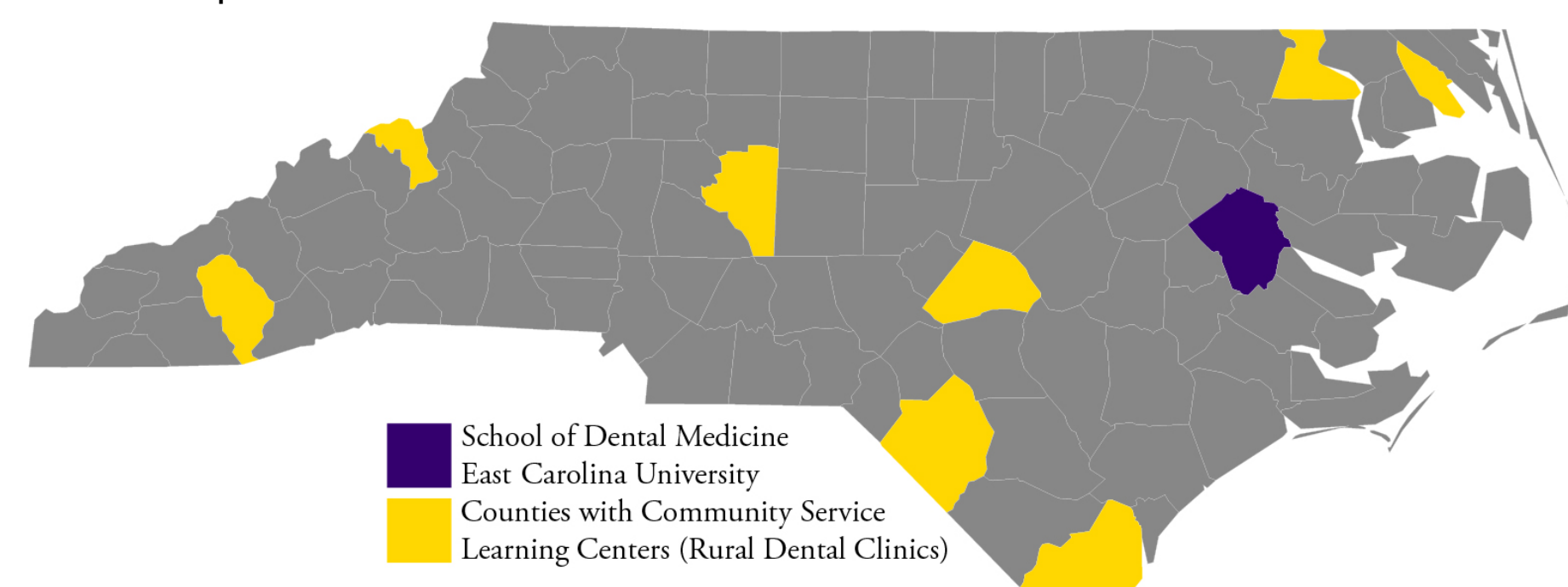
• OSHA Bloodborne Pathogens Standard of 1991

• Needlestick Safety and Prevention Act of 2001

• ECU Prospective Health

PROJECT AIM

- Ensuring safe clinics by decreasing amount of exposures
- Having a system for continual improvement of our clinic safety processes and procedures
- Promoting awareness through evaluation of our surroundings
- Having safe setups during procedures
- Staying focused on each task and taking responsibility for creating a safe environment for patients, students, residents, staff, and faculty
- Being cognizant of these potential risks and be looking for ways to keep exposures from happening
- Calibrating Ross Hall, CSLCs, and Hospital Dentistry's faculty, staff, residents, and students in safe processes and procedures



PROJECT DESIGN/STRATEGY

The primary ways to prevent bloodborne pathogen exposures are through increased awareness of all those involved in patient care, implementation of engineering, work practice, and administrative controls and education of faculty, staff, residents, and students on bloodborne pathogen exposure prevention. Engineering controls means controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the work place. These include needle-stick shields, blade removers and puncture-resistant sharps containers. Work practice controls reduce the likelihood of exposure by altering the manner in which a task is performed. These include retraction using dental mirrors instead of fingers, or barrier films on lights, chairs and units to prevent disease transmission. Administrative controls provide information through policies and procedures and enforcement.

Engineering and work practice control usage were part of the discussions with faculty, staff, residents and students. One-handed needle capping and utilization of the needle shield were stressed. Other recommendations included: retraction with a dental mirror instead of practitioner or assistant's finger, keeping track of hand placement in the oral cavity, and being careful with clean-up since many exposures occurred after the patient had left.

Evaluation of students not yet involved in patient care was discussed as playing a critical role in prevention of exposures before actually treating patients and in future years. The manikin "Fake Heads" course was identified as a good choice for this since it occurs directly before students enter the patient care portion of the curriculum. It also included preventing exposures presentation at student orientation of the second year dental students prior to them providing patient care in clinics.

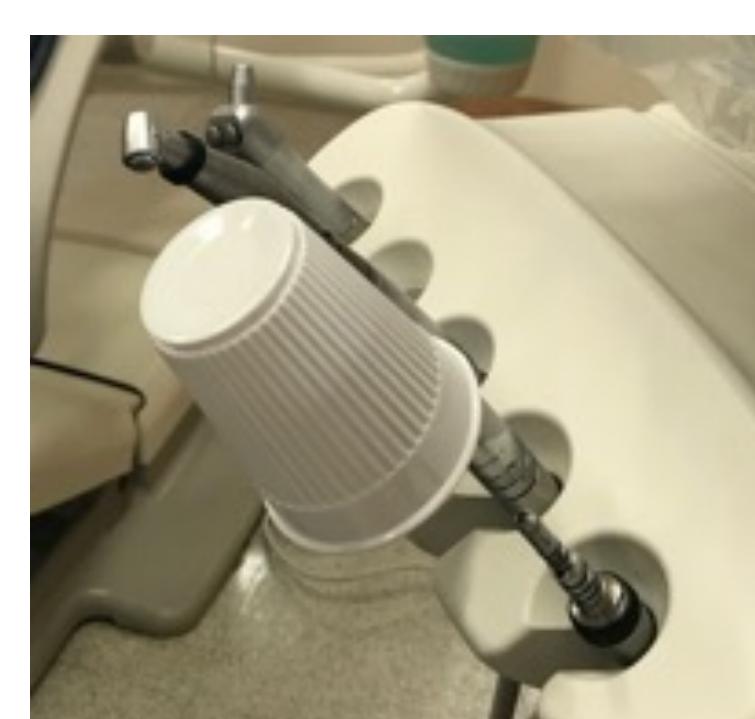


CHANGES MADE (PDSA CYCLES)

After meeting with ECU Office of Prospective Health, awareness of the need to improve safety in our clinics was accomplished through several routes. The main causes of exposures (needle-sticks, burs, and sharp objects) as well as ways to prevent exposures from occurring were discussed with faculty and staff. Conversations regarding safety and prevention were held during Faculty Council, Quality Assurance/Quality Improvement, and departmental meetings. Increased staff awareness was accomplished through Clinical Affairs meetings between the Associate Dean/Director of Clinics and his sixty-direct staff reports which include: dental assistants, dispensary clerks, patient representatives, patient care coordinators, sterilization staff and IT staff. Faculty and staff were encouraged to employ a higher level of awareness of potential hazards seen in clinics, and to take steps to prevent them through various measures such as monitoring placement of instruments, monitoring burs in handpieces on dental chairs, and recommending proper retraction during local anesthesia administration.



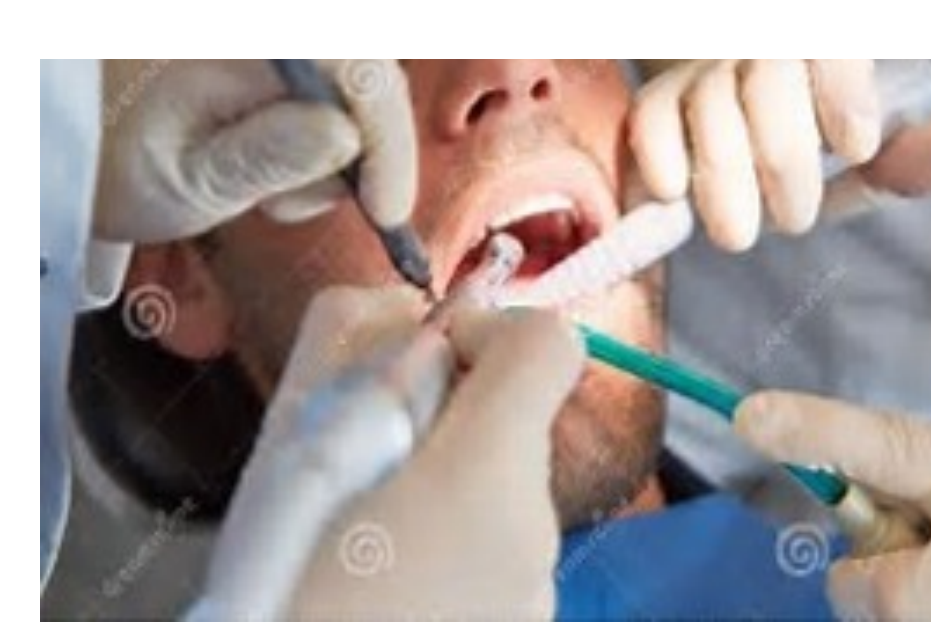
Engineering control: dental recapping device, shield that prevents practitioner from a needlestick injury, the cardboard square is used to transfer the needle to the cap and then to the sharps container



Engineering control: capping the drill bur prevents practitioner from injury



Work practice control: using a hand mirror to retract tissue during suturing or injections prevents incidents



Work practice control: reminding practitioners (including dental assistants) to pay attention to where all hands and fingers are when providing patient care



Engineering control: placing sharps containers in close proximity where easily accessible



Engineering control: wearing puncture, tear, chemical resistant gloves prevents incidents



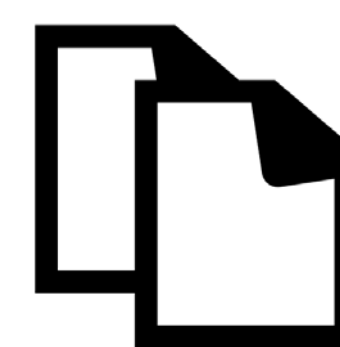
Engineering control: being aware of instruments sticking out of the cassette, ensuring instruments are in the proper location in the cassette



Work practice control: reminding practitioner not to use magnification when administering local anesthesia – distorts field of view



Engineering control: ensuring patients, practitioners, assistants wear safety glasses to prevent injury



HAZARD COMMUNICATION PLAN
BLOODBORNE PATHOGEN TRAINING
EXPOSURE CONTROL PLAN



Engineering control: wearing splash shields prevents practitioners from splashes and sprays

LESSONS LEARNED

- With the dramatic changes in faculty and staff occurring, as well as the continually increasing number of patients and patient visits, enhancing the level of situation awareness and safety practices is essential
- Further developing calibration of Ross Hall, CSLC's and HOD faculty, staff, residents, and students on safe practices for patient care
- Continuing to evaluate new engineering, work practice and administrative controls consistent with OSHA regulations
- Evaluating each CSLC and Ross Hall groups looking for trends in maintaining patient and provider safety

NEXT STEPS

- Yearly evaluations of new engineering controls, work practice, and administrative controls
- Calibrate Ross Hall safety processes and procedures with the CSLCs and HOD
- Continue tracking exposures/incidents – trend analysis
- Safety awareness by displaying posters/signage (general awareness, correct techniques, fast facts)
- Modify work practices
- Evaluate the effectiveness of prevention efforts and provide feedback on performance/improvements for faculty, staff, residents, and students
- Evaluate students not yet involved in patient care was discussed as playing a critical role in prevention of exposures before actually treating patients and in future years. The manikin "Fake Heads" course was identified as well as second year clinic orientation prior to clinical patient care as a good choice for this since it occurs directly before students enter the clinic
- Implement Centers for Disease Control (CDC) Stop Sticks Blitz (refers to brief, targeted communication intervention that brings attention to the safety campaign goals strategy)
- Require students to complete clinic orientation as well as read and accept the Clinic Manual prior to being granted clinic privileges
- Use the CDC DentalCheck free mobile app to ensure meeting the minimum expectations for safe care practices to prevent dental infections
- Although North Carolina does not have **State Needle Safety Legislation** laws (that go beyond OSHA requirements), mirror other states as far as developing a list of available safety devices, protocol for safety device selection, and evaluation of safe sharps devices



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RESULTS/OUTCOMES

