As of August 2014, pharmacists have been authorized to vaccinate patients in all 50 states. Pharmacy schools across the nation are working to incorporate immunization training into part of their curriculum as a means to "promote health improvement, wellness, and disease prevention." All Drake University student pharmacists complete an immunization certificate training program as a requirement of the PharmD curriculum. Recent research suggests that the initial certificate training completed by student pharmacists may need additional supplemental instruction to increase confidence in their abilities. Skoy et al, found that student self-ratings improved in the areas of proficiency, confidence, and anxiety after using either a low- or high-fidelity injection simulator. Donohoe et al provided student pharmacists with further education by creating an active learning laboratory where student pharmacists completed case studies. They found a significant increase in student pharmacists’ knowledge, confidence in screening patients, implementing emergency procedures, and documenting immunizations; however, a limitation to this study was that students did not receive practice administering immunizations.

To compare student knowledge and confidence before and after a blended learning immunization activity that included an immunization skills checklist and administration technique practice.

**Objective:** To compare student knowledge and confidence before and after a blended learning immunization activity that included an immunization skills checklist and administration technique practice.

**Methods:**
- Third year student pharmacists participated in immunization-focused blended-learning activities during their weekly 1-hour lecture and 1-hour, 50-minute lab as part of the Advanced Pharmacy Skills and Applications (APSA) course.
- Activities included a vodcast on immunization administration and safety, immunization technique videos, as well as cases and administration practice in the laboratory setting.
- Students completed a survey examining confidence and knowledge of immunization administration and safety before and after the intervention.
- For administration practice, students injected a partner’s arm, a faculty member’s arm, or an injection dome.
- Students also practiced with intradermal and intranasal demonstration devices.
- An immunization skills checklist was utilized and students’ immunization technique was evaluated during the lab component.

**Results:**
- 101 students completed the pre- and post-assessments.
- 98 out of 101 students (97%) viewed the full vodcast.
- The average score of the pre-assessment survey to measure immunization knowledge was 71% compared to 84.2% on the post-assessment survey.
- Students’ average confidence improved from 3.7 to 4.2 based on a Likert scale of 1 to 5.
- The most commonly missed immunization skills checklist items included discussing management of side effects and appropriate comfort measures and distraction techniques.

**Limitations:**
- Students initial training could vary as PharmD curriculum accepts different immunization certificate training programs.
- Wide variety of practice and IPPE experience among students.
- Large amount of material for one lecture/lab.

**Conclusions:**
- A blended learning immunization activity allowed for students to increase their knowledge and confidence level with vaccine administration and safety.
- Implementation of an immunization checklist and additional administration practice was beneficial to student learning.
- Faculty were able to focus on student skills and adjust lab activities to enhance confidence in management of side effects and comfort measures.
- Future opportunity could be implementation of the immunization skills checklist in IPPE and APPE.

**References:**