## Gain of Knowledge and Confidence in Assessing and Treating Diseases in a Pharmacy Skills Laboratory

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### Introduction

- The Accreditation Standards and Guidelines for the Professional Program in Pharmacy Leading to the Doctor of Pharmacy Degree state that students should be provided with opportunities to develop critical thinking and problem-solving skills through active learning strategies and other high level pedagogical strategies.
- Active learning strategies are the focus of the pharmaceutical care lab at the North Dakota State University College of Pharmacy. Pharmacy students apply knowledge of disease states to simulated patient cases.
- Active learning is used to improve student’s ability to care for patients.

### Objective

To assess the change in knowledge and confidence of third year pharmacy students after performing interactive activities that require recall and application of clinical knowledge.

### Methods

- Faculty developed an innovative, interactive, activity used to assess student knowledge and confidence in applying clinical knowledge to simulated patient cases.
- Pharmaceutical Care Laboratory III is a one credit course and part of a 4-semester laboratory sequence. Six 2 hour laboratory sections were offered each week, with 12-16 third year pharmacy students enrolled in each section.
- Eighty-two third year pharmacy students were placed in groups of 2-3 students.
- The activity consisted of 8 stations, each of which had a patient case focused on hypertension, hyperlipidemia, smoking cessation, rheumatoid arthritis, self-care, asthma, anaphylaxis, and cultural awareness.

### Results

- Sixty-three students completed pre-post surveys assessing their growth in knowledge and confidence.
- Following the activity, students demonstrated an overall gain in knowledge (p<0.001), improving by 2 points (from 12.87 to 14.78).
- Results showed an increase in knowledge for 16 of 18 questions (89%).
- Students demonstrated increased confidence for 13 of 14 questions (93%).

### Implications

- This activity exposed students to common disease states that required them to think critically in order to evaluate and apply knowledge to patient-based cases. Results indicate that this hands-on activity helps prepare students for management of patients with various disease states.

### References