

**The Role of Patient Counseling in Preventing Medication Errors:
Significance of Graduation Date**

Stephen Andrew Mitchener, Pharm. D. Candidate, UNC-CH Class of 2003
David Work, JD, Executive Director of the North Carolina Board of Pharmacy,
Adjunct Professor at UNC-CH School of Pharmacy
January 24, 2003

Stephen Mitchener
1000 West Queen Street
Edenton, NC 27932
Phone: 919-280-6957
Email: samcr97@hotmail.com

Abstract

Since 1993, the North Carolina Board of Pharmacy has had a rule dictating the need to offer patient counseling on all new prescriptions, as well as how to perform counseling if the offer is accepted. The importance of patient counseling came to the forefront in North Carolina in 1999. The Board of Pharmacy began using Board Inspectors to randomly target stores across the state to test pharmacist/pharmacy adherence of this law. Violating pharmacists/pharmacies would be cited by the Board for “Failure to offer to counsel.”

Additionally, errors in prescription medications have steadily increased over the past few years, most likely as a result of increasing prescription volumes and an inadequate supply of pharmacists to dispense them. Pharmacists are already being crunched for time at present, having to deal with the rising volume of prescriptions, increased time spent on insurance claims, as well as fulfilling administrative duties. With this huge workload, often patient counseling is neglected, adding to the increasing problem of dispensing errors. This study analyzed cases documented in the North Carolina Board of Pharmacy Minutes from November 1999 to October 2002 concerning violations of the patient counseling rule as well as patient complaints/pharmacists errors that may have been avoided if adequate patient counseling had been performed.

Over the last three years, 196 cases were identified. A key factor for pharmacist analyzed in this study was date of graduation from pharmacy school. This is important as 1993 was the beginning of patient counseling legislation and thus was introduced into pharmacy school curriculum. This study sought to see if there was a significant

difference in number and demographics between those pharmacists who graduated before 1993, and those that graduated in 1993 and later.

From these 196 cases, only 20% of the complaints were due to pharmacists who graduated in 1993 or later. This finding suggests that pharmacists who graduated before this date received no formal education on the importance and administration of patient counseling and thus are less prone to perform patient counseling in accordance with NC Pharmacy Statutes and Rules.

Introduction

The past thirteen years have seen an increasing trend in pharmacy towards the necessity of pharmacist counseling patients on prescription medications. Patient counseling would serve to not only help educate patients about their medications, but would also serve to open communication lines further between the pharmacist and the patient. This would allow the pharmacist to give better health care as he/she would be better informed of the patients' overall health, and could further help the patient in leading a healthier life.

In 1990, the Omnibus Budget Reconciliation Act (OBRA 90) came into existence. This legislation includes a portion dedicated to state Medicaid programs, specifically the need for patient drug use review, patient counseling, and maintenance of patient records. From OBRA 90, specific guidelines regarding how to counsel patients were detailed. Topics that pharmacists need to address with patients include, but are not limited to the following:

- Name and description of the medication
- Route of administration
- Dose

- Dosage form
- Duration of drug therapy
- Special directions and precautions for preparation of drugs
- Administration and use by the patient
- Common severe side effects/ adverse effects
- Interactions and therapeutic contraindications that may be encountered (including their avoidance and the action required if they occur)
- Techniques for self-monitoring drug therapy
- Proper storage
- Refill information
- Appropriate action in case of a missed dose

This act sparked national interest in the need for patient counseling and subsequently led to the passing of legislation mandating the need to counsel all patients from various states across the United States.

In 1993, North Carolina added a section mandating and describing the essentials of patient counseling to its Pharmacy Rules. Subsequently, pharmacy schools in North Carolina and across the United States began to institute education and training to pharmacy students on how to appropriately counsel patients on their medications. However, pharmacists from previous generations are expected to counsel patients without having any official training on how to appropriately counsel patients with the exception of sparse, limited continuing education seminars that reach only a small percent of the pharmacist population.

In order to see if there is a correlation between an inadequacy in patient counseling and the graduation date of pharmacists, a study was performed analyzing all the complaints/concerns to the NC Board of Pharmacy from November 1999 to October 2002. A total of 196 complaints related to patient counseling were found. These complaints were divided into three categories:

- 1) A blatant violation of the patient counseling rule as dictated by the NC Board of Pharmacy Meeting Minutes
- 2) A violation where there is a strong possibility that the error could have been avoided had the patient been adequately counseled by a pharmacist
- 3) A violation where there is an outside chance that patient counseling would have changed the error outcome

From these cases, an analysis was performed dividing up the cases into those pharmacists who graduated before 1993 and those that graduated post 1993. With the patient counseling regulations coming into effect in 1993, this division was chosen to see if graduation date played a significant role in pharmacist susceptibility to patient counseling infractions. In addition to dividing cases according to the graduation date, the following demographics were also documented: sex, date of birth, school of pharmacy, and race.

Results

Category 1

Out of 196 cases reported to the NC Board of Pharmacy, sixty-four cases were violations that were documented as being due to a lack of offer to counsel by the dispensing pharmacist. Fifty-six of these cases (87.5%) involved pharmacists that graduated prior to 1993. The average graduation year for this group was 1975, with the most recent graduate coming from the 1991 class, and the oldest graduate from the class

of 1956. The average age of this group at the time an error was committed was 50 years of age.

Eight cases qualified in this category as having graduated from pharmacy school in 1993 or later. The average graduation year was 1996; the average age of this group at time of error was 25 years old.

In regards to sex, the pre-1993 group involved 41 males and 15 females. In contrast, the 1993+ group of eight was evenly split between males and females. This trend may be attributed to the increasing enrollment of females in schools of pharmacy over the past 15 years. For all cases, the dominant race was white, reflective of the population of practicing pharmacists.

Category 2

Seventy-four cases since November of 1999 qualified as being a violation where there is a strong possibility that the error could have been avoided had the patient been adequately counseled by a pharmacist. Fifty-four (73%) of these cases qualified as graduates prior to 1993. Eighty-five percent of these graduates were male; 89% were white. The average graduation year for this group was 1975, with the most recent graduate coming from the class of 1992. The oldest graduation date came from the class of 1956.

Twenty cases in Category Two qualify as pharmacists having graduated in 1993 or later. Eight of these pharmacists were female, 12 male. Seventy-five percent of the pharmacists involved were white. The average year of graduation was 1996; average age at time of error was 31 years old.

Category 3

In regards to cases with a violation where there is an outside chance that patient counseling would have changed the error outcome, 58 of the 196 cases qualified. From the 58 qualifying cases, 47 pharmacists had graduated prior to 1993. Nineteen of these pharmacists were female, 28 male. The average year of graduation was 1976; the most recent graduate came from the class of 1992; the oldest from the class of 1953. The average age of this group at time of error was 47 years old; 87% of this group was white.

Eleven of the 58 cases were from pharmacists who graduated in 1993 or later. Six of the pharmacists were female; 5 were male. The average year of graduation was 1997. The average age of the pharmacists involved was 29 years of age at time of error. Ninety-one percent of this group was white.

Interestingly enough, combining the results of Category 1 and 2 does not bring a stronger correlation of age being a factor in pharmacist error. The ratio of 80% of the pharmacists graduating before 1993 and 20% graduating thereafter is in accordance with the overall ratio found from all three categories.

Additional data taken from this entire study included demographic information such as sex, race, and school of pharmacy. In the pre-1993 group, 27% of the group was female, 46% female in the 1993 and later group. These percentages seem to be reflective of the increasing enrollment of female students in schools of pharmacy, as well as the increased number of licensed female pharmacists in NC. In regards to race, 91% of pharmacists in the pre-1993 group were white, 82% were white in the 1993 and later group. Again, these percentages are indicative of the demographics of pharmacists

graduating in North Carolina. Finally, approximately 53% of the pharmacists in this study attended the University of North Carolina at Chapel Hill School of Pharmacy, demonstrating the prevalence of UNC-CH graduates practicing in North Carolina.

Discussion

From the data taken, it is clear that those pharmacists who graduated before 1993 were more likely to inadequately offer and/or perform patient counseling. Additionally, the average age of this group at the time of error was 49 years old, versus 28 years of age for the group graduating post 1993. While the data used in this study is only from complaints and may not be a true representation of overall sampling of pharmacists in NC, it appears that the older generation of pharmacists in North Carolina are much more likely to be found guilty of not offering to counsel, as well as having errors that may have been prevented if adequate counseling had been performed.

What should be done about this? Should a mandatory meeting be required of all pharmacists in order to properly educate them on what is expected of them? Does the North Carolina Board of Pharmacy need to restart random undercover investigations to check for patient counseling? Should pharmacists of a certain age group be required to fulfill different, more hands-on CE classes on patient counseling?

In order to improve patient health care and reduce the number of medication related errors, a greater emphasis needs to be placed on pharmacist patient counseling. While pharmacists are currently working in situations where manpower cannot satisfy the

demands of increased prescription volume, time still needs to be spent talking and counseling patients in order to better patient care.

Conclusion

Of the 196 cases involving patient counseling issues in NC since November 1999, 80% of the pharmacists involved graduated before 1993. This staggering statistic reflects the importance pharmacy schools have placed on patient counseling and its effectiveness since the inception of the patient counseling rule in 1993. Further education and value needs to be placed on pharmacists regardless of graduation date to further emphasize the benefits of patient counseling to the better good of health care.