VIEWPOINTS

Documentation: A Value Proposition for Pharmacy Education and the Pharmacy Profession

George E. MacKinnon III, PhD

Vice President of Academic Affairs, American Association of Colleges of Pharmacy

We are what we repeatedly do. Excellence, then, is not an act, but a habit (or behavior).

- Aristotle

Arguably one of the greatest challenges for pharmacy education today is the ability to identify, train, and retain quality/exemplary experiential education preceptors/sites of a diverse nature that meet the ACPE Standards 2007 for both introductory and advanced pharmacy practice experiences (IPPEs/APPEs) in a doctor of pharmacy curriculum. By a similar token, one of the challenges expressed in many contemporary pharmacy practice environments is demonstrating the “value” that pharmacists provide beyond pharmaceutical product procurement, preparation, distribution, and fulfillment responsibilities to patients. Presently there is no universal approach to document the overall use of medications (including vitamins/supplements/ over-the-counter products), their intended therapeutic uses, the desired goals of therapy, the outcomes achieved (either positive or negative), and the follow up intended by either the prescriber or in some cases the dispensing pharmacist. Yet other healthcare providers routinely use documentation processes (ie, care plans) as it relates to their scope of professional practice.

The medication use process has been described in several distinct stages: (1) ordering, (2) transcription and verification, (3) dispensing, and (4) medication administration or consumption. While pharmacy is typically involved in 2 of these stages, one critical element often neglected in describing the medication use process is the assessment of the patient’s response to therapy. Central to this argument is: who assesses the response to therapy, to whom is the response communicated, and how is the response documented and communicated? It is this feedback loop of the routine monitoring of patient response to therapy that is a critical missing element in assuring safe and optimal outcomes to medication therapies in all sectors of healthcare. Clearly various healthcare providers, including pharmacists should be involved in the assessment (at the point-of-care) and communication of outcomes related to medication therapies.

Technological advancements such as electronic medical/health records (EMR/EHR), computerized

physician/prescriber order entry (CPOE), bar code technology, radio frequency identification (RFID), and decision-support software will have a profound impact on all the stages of the medication use process in the next decade. Use of electronic patient profiles that include documentation of pharmacy generated patient-specific data (ie, history of medication usage—prescription, over-the-counter, and vitamins/supplements, history of refills, assessment of compliance) along with pharmacist intervention data (ie, recommendations for referrals, lab assessments, product discontinuations/changes) coupled with EMR/EHR technology can allow for overall improved communication, enhanced clinical decision-making, potential reduction of preventable adverse events, and the ability to follow up on outcomes associated with patient-specific care plans. The pharmacy profession must demonstrate to various stakeholders that pharmacists provide a vital component to the medication use process, ensuring safe medication use and documenting the associated outcomes of therapy on a consistent basis.

Grainger-Rousseau and colleagues have proposed 8 essential elements that must be in place for medication therapy to be both safe and effective within a medication use system, of which the seventh element refers specifically to documentation and communication.¹ When one or more of these 8 essential elements are missing in the care of a patient, the risk of experiencing a medication-related problem is increased. It is well understood that documentation is the accepted method by which health care providers communicate with one another with respect to patient care decision making and clinical outcomes. Documentation is also the primary method to demonstrate value within the health care system. Thus, if pharmacists in all practice settings are not communicating data/information routinely with other providers, they may not be considered an essential and integral part of the healthcare team.

Beyond pharmaceutical product fulfillment responsibilities (and monitoring of therapeutic response), pharmacists are in an opportune position to refer patients back into the healthcare system for attention they may be in need of, as well as identifying laboratory data that

necessitates further assessment. While such oversight by pharmacists does occur, all too often the process by which pharmacists in community and hospital settings document and communicate their clinical interventions as described above is all but absent. Pharmacist-initiated contributions to a patient's care plan (assisting to achieve defined therapeutic objectives and/or identification or avoidance of medication-related problems where possible) must be documented and shared alike.

The area of pharmacovigilance² and medication error prevention³ are areas that require the utmost attention of the healthcare community and have received recent attention by the FDA and others following the 2006 Institute of Medicine (IOM) Reports. When a newly approved biological/chemical entity is introduced to the market, the opportunities for unintentional adverse events can surface. For prescribers unfamiliar with the new medication and the sample of patients in which it was tested, the potential for adverse consequences can be amplified when used in clinical practice (eg, Vioxx). It has been suggested that having controlled or limited distribution through pharmacies (eg, medication vouchers in place of medication samples provided at the point-of-care in medical offices) and a universal medication documentation system that provides surveillance data on ADE/ADRs to a regulatory body (or other appropriate oversight agency) would be beneficial in assessing postmarketing surveillance. Is the pharmacy profession ready to embrace such a novel approach to pharmacovigilance if asked to? As more discussions in Washington center around the desire to have comparative effectiveness and observational studies as they relate to medication therapies, is the profession able to assist in the phase IV or postmarketing studies that are necessary for this to take place?

While many graduates of colleges and schools of pharmacy (now numbering over 9,000 annually⁴) have entered practice with the knowledge of the importance of intervening on patients' behalf and communicating such interventions to patients and providers, few pharmacists have acquired the appropriate skills to document such activities and even fewer have modeled this behavior of documentation in their respective practices on a consistent basis. As described in one pharmacy-student intervention study involving over 30,647 interventions in both community and hospital locations, a patient condition warranted medical attention in 4.9% of cases and a laboratory value warranted attention in 6.1% of total interventions.⁵ In this study, acceptance of pharmacy recommendations (or clarification achieved) was 71%. Similar findings reported in *AJPE* were corroborated in an Internet-based study of pharmacy students resulting in 5,031 interventions, which the rationale was a referral for

a medical attention in 4.7% of interventions in the community pharmacy setting and a laboratory value warranted further attention in 9.8% of hospital interventions. The majority (87.1%) of all of the recommendations provided were accepted.⁶

As previously stated in the *Journal*, pharmacy students/interns/residents need to document to the organization the value they provide at their respective clinical practices sites.⁷ The overall pharmacy "value" will be derived by weighing the evidence obtained through the provision of direct patient-care services, monitoring medication therapy outcomes (favorable and non-favorable), providing appropriate recommendations, and documenting the outcomes achieved. All of which must be communicated in an efficient, concise, consistent (universal), and collaborative manner to various stakeholders.

Some questions to ponder are: How universal is the approach to documenting student interventions at our member colleges and schools of pharmacy? What beneficial outcomes could be achieved by having a universal technological approach (as opposed to program-specific) to student documentation among our 48,000 pharmacy students during IPPEs and APPEs. What practice-based research potential exists with a common platform for documentation? Would the value of pharmacy student placements at various practice settings increase, thereby reducing the stresses occurring in experiential offices across the country if meaning interventional data is provided to all sites on a routine basis (possibly a demand for pharmacy student placements would be created)? Would students gain more from experiential education if they knew that there is recognized value in what they do? Does placing students accountable for documenting their direct patient-care activities enhance the professional behaviors we desire in our graduates (and our preceptors)? Does having a cadre of trained professionals involved in assessing, documenting, and communicating about safe medication use, outcomes of therapies (prescription, over-the-counter, and vitamins/supplements), and ongoing postmarketing surveillance provide needed data to the public and private sector stakeholders? Obviously, stating questions is easy, providing the answers to the questions that are grounded in facts is rigorous, tedious, and requires collaboration. We should not anticipate an invitation from outside the profession to answer these and other questions, so the journey by the Academy (collectively) along with the Profession and other stakeholders must begin now.

REFERENCES

1. Grainger-Rousseau TJ, Miralles MA, Hepler CD, et al. Therapeutic outcomes monitoring: application of pharmaceutical

American Journal of Pharmaceutical Education 2007; 71 (4) Article 73.

care guidelines to community pharmacy. *J Am Pharm Assoc.* 1997;NS37:647-61.

2. Alina Baci, Kathleen Stratton, Sheila P. Burke, eds. *The Future of Drug Safety: Promoting and Protecting the Health of the Public.*

Committee on the Assessment of the US Drug Safety System.

Institute of Medicine. Washington, DC: National Academy

Press; 2006.

3. Aspden P, Wolcott J, Bootman JL, Cronenwett, eds.

Preventing Medication Errors. Committee on Identifying and

Preventing Medication Errors Board on Health Care Services.

Institute of Medicine. Washington, DC: National Academy

Press; 2006.

4. *Profile of Pharmacy Students 2005-06 Applicant Pool Degrees Conferred 2005-06.* Alexandria, Va: American Association of Colleges of Pharmacy 2006.

5. MacKinnon III GE. Documenting pharmacy student interventions via scannable patient care activity records (PCAR). *Pharm Educ.* 2002;2:191-7.

6. MacKinnon III GE. Analysis of pharmacy student interventions collected via an Internet-based system. *Am J Pharm Educ.* 2003;67:Article 90.

7. Chase P. Rethinking experiential education (or does anyone want a pharmacy student?) *Am J Pharm Educ.* 2007;71: Article 27.