

Pharmaceutical Care: The "Reprofessionalization" Movement

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Introduction:

Pharmacy has always evolved and developed as a caring profession. However, the focus of that caring has shifted over time from the drug product to the patient. During the Compounding, and manufacturing era of the 1950s, pharmacists expressed their caring by preparing drug products in accordance with stringent quality-control procedures. The unit dose era saw pharmacists caring by seeking to eliminate unnecessary nursing manipulations, ensuring that the patients received their medications, and reducing the incidence of medication errors. The Clinical pharmacy era had pharmacists providing drug information and monitoring pharmacokinetics (1). Today, the pharmacy is undergoing "reprofessionalization", exploring the opportunity to mature as a profession by accepting its social responsibility to reduce preventable drug-related morbidity and mortality (2).

Mikeal et al. (1975) first defined pharmaceutical care as "the care that a given patient requires and receives which assures safe and rational drug usage (3). Although the term has been in use since then, it became topical when Brodie et al. (4) suggested that pharmaceutical care includes the determination

of the drug needs for a given individual and the provision not only of the required drugs but also of the services necessary (before, during, and after treatment) to ensure optimally safe and effective therapy. However, the changes that occurred following this work focused primarily on controlling the availability and distribution of the drug product and not specifically on patient need within identifiable clinical parameters. Hepler in 1988 philosophically defined pharmaceutical care as "a covenantal relationship between a pharmacist and a patient in which the pharmacist performs drug use control functions (with appropriate knowledge and skill) governed by the awareness of and commitment of the patient's interest (5). In 1990, Hepler and Strand published a paper, which further developed pharmaceutical care by connecting the philosophy and practice concepts. This foundational conceptualization defined pharmaceutical care as that component of pharmacy practice that entails direct interaction of the pharmacist with the patient for the purpose of caring for the patient's drug related-needs. (6)

Operational definition: The term pharmaceutical care has in the past decade been attracting global attention and focus. It is

intended to describe a service distinctly different from the traditional pharmacy dispensing activities. It is first and foremost a patient-centered practice. Its focus is on the patients and their medications but is not dependent on the product being dispensed. It is a process rather than an event. Pharmaceutical care is a multi-disciplinary process. In other words the pharmacist works in collaboration with the patient and other care givers while taking responsibility for meeting the patients drug related needs. It is necessary to make distinction between pharmaceutical care and disease state management. Emphasizing a disease over the patient's total therapy is inconsistent with pharmaceutical care, in other words the pharmaceutical care process goes beyond the traditional disease state management.

Pharmaceutical care has been defined as the responsible provision of drug therapy for the purpose of achieving definite outcomes that improve the quality of life of the patient (2). Such outcomes, though of prime importance, are difficult to evaluate or to attribute uniquely to a pharmaceutical contribution, since both patient's current and future health status may be affected by numerous health care

interventions. In the absence of distinct outcome measures, performance indicators relating to structure and process, where clearly linked to an evidence base, have as much if not more to offer to outcome measures and are likely to be more practical to monitor (7). A more practical definition that allows qualitative performance indicators with respect to patient's needs in addition to the quantitative indicators more commonly employed to assess pharmacy services is that "the pharmacist takes responsibility for a patient's drug related needs and is held accountable for meeting those needs" (8). From the foregoing, three key related terms if understood are necessary in grasping the concept of pharmaceutical care, which is both philosophical and practice orientated. These are: the pharmacist's responsibility, drug therapy problems, and outcomes of therapy. The philosophy of pharmaceutical care had four basic components: "social need", "patient-centered care", "caring" and "pharmacist responsibilities". The social need was that pharmacists would assure that all the patients' drug therapy was appropriately indicated, effective, safe and convenient. The only way they could do that was one patient at a time. They were not meeting that need at the moment. Drug related morbidity and mortality was costing \$81Bn a year in the United States (9). The "patient-centered" approach needed to see the

patient as a whole. Pharmacists could not choose one disease or one set of patients. Pharmaceutical care was a generalist practice. Practitioners needed to use the same patient care process. That enabled them to communicate with each other. Community pharmacists, hospital pharmacists and long-term care pharmacists all had to use the same practice. In the health care context, "caring," meant something very specific. There were three components. The first one was to assess the patient's needs. Then resources had to be brought to bear to meet those needs. Finally, there should be follow-up to determine whether what had been done was beneficial or otherwise. Without those three components, there was no pharmaceutical care. Caring in the context of pharmaceutical care is analogous to medical, dental, and nursing care and provision of such care requires that pharmacists have a generalist, rather than specialist orientation and be held responsible for the outcomes of drug therapy (10). Defining pharmacists' responsibilities, Professor Strand said that they had to be able to identify a patient's drug related needs and meet those needs better than anybody else. If they did not do so, they would not be paid as a patient care provider. Pharmacists had to build a practice just as a dentist or a physician would one? patient at a time.

To be responsible implies that the pharmacist has both the cognitive base and right attitude to render the service to the patient as a professional responsibility and not an option.

Drug Therapy Problems:

Drug therapy related problems are the hearts and souls of pharmaceutical care. For practical purposes pharmacists should view drug therapy problems as either potential (likely to occur) or actual (occur in the course of drug use). Pharmaceutical industry studies have indicated that in the US, 1.3 million hospitalizations and 63,000 deaths are caused by the use of prescription drugs each year (11 & 12). This would suggest that one is ten times more likely to get injured by a prescription drug than by an auto accident in any given year. It also indicates that the number of people who commit suicide, are murdered, or die in auto accidents combined is roughly equal to the number of people who die as a result of what comes of the prescription bottle in any given year. These sobering figures are pointing to a major public health problem. In a similar report, some 12,000 deaths and 15,000 hospitalizations due to adverse drug reactions (ADRs) were reported to the FDA in 1987, and many went unreported. Pharmacists and their institutions must therefore stop looking inward and start redirecting their energies to the

greater social good. Drug related morbidity and mortality are often preventable, and pharmaceutical services can reduce the number of ADRs, the length of hospital stays, and cost of care (2). When pharmacists prevent drug induced diseases, they are contributing to public health, and when they cause appropriate drug use thereby preventing disease complications, they improve the quality of life of patients. Pharmaceutical care offers a concrete opportunity to become a patient advocate. Since drug therapy is associated with risks and benefits, the pharmacist becomes a risk manager thereby optimizing the goal of

drug therapy improving on existing results or getting some, where none existed. A drug therapy problem is any undesirable event experienced by the patient that involves or is suspected to involve drug therapy and that actually or potentially interferes with a desired patient outcome. The term is used to denote a drug-related event amenable to detection, treatment or prevention. A drug therapy problem is also a situation that if left unresolved prevents a patient from realizing the full benefits of their drug therapy. To be recognized as a drug therapy problem, the patient, the physician and the

pharmacist must all agree there is a problem and therapy is changed as a result. Pharmaceutical care is a multidisciplinary process. In other words the pharmacist works in collaboration with the patient and other caregivers while taking responsibility for meeting the patients drug related needs. The causes of drug-related problems are multifactorial and their assessment has been based on factors such as inappropriate prescribing, inappropriate delivery, inappropriate patient behavior, patient idiosyncrasy, and inappropriate monitoring (13).

Translating Drug- Related Needs into Drug Therapy Problems (14):

PATIENT'S EXPRESSION DRUG- RELATED NEEDS DRUG THERAPY PROBLEMS

PATIENT'S EXPRESSION	DRUG- RELATED NEEDS	DRUG THERAPY PROBLEMS
Understanding	Indication	1. Additional drug therapy
Expectations	Effectiveness	2. Unnecessary drug therapy
Concerns	Safety	3. Wrong drug
Behaviour	Compliance	4. Dosage too low
		5. Adverse drug reaction (Including drug interaction)
		6. Dosage too high
		7. Compliance

These seven classes of drug related problems could be further reduced into four: Indication, Efficacy, Safety and Compliance.

Cipolle et al. (14) have elaborated on categories of drug therapy problems. An understanding of the categories is imperative in the systematic implementation of the pharmaceutical care process:

1. The patient has a medical condition that requires the initiation of new or additional therapy (untreated indication).
2. The patient is taking a drug therapy that is unnecessary given his or her present condition.
3. The patient has a medical condition for which the wrong drug is being taken.
4. The patient has a medical condition for which too little of the correct drug is being taken (dose, frequency, and duration).
5. The patient has a medical condition resulting from an adverse drug reaction. /Drug interactions.

6. The patient has a medical condition for which too much of the correct drug is being taken.
7. The patient has a medical condition resulting from not taking the drug appropriately (explore missed doses and reasons).

Pharmaceutical care role of pharmacists:

The pharmacists primary role is to identify, prevent, and resolve potential or actual drug related problems. This requires, knowledge of drug kinetics and dynamics, disease processes, and clinical judgment. Through the use of patient medication records or other patient records, patient interview, patient observation or laboratory studies, the pharmacist can systematically identify drug therapy problems, and it must not end with documenting findings.

- Some interventions necessary may involve:
- Communicating finding to patient/other care givers
- Education/counseling
- Discontinuation of drug
- Change of dose
- Support
- Follow-up

Outcomes Of Therapy: Clinical/therapeutic, humanistic and economic outcomes.

Clinical/Therapeutic Outcome: This may include: curing the patient; elimination or reduction of patient's target

symptoms; preventing or slowing the disease; prevention of disease or symptom; diagnosis of a disease; avoidance of drug related problems such as wrong indication, adverse drug reaction, and non compliance.

Humanistic Outcome: Three aspects of humanistic outcome can be evaluated: patient satisfaction, knowledge of disease state and management, and quality of life (15).

These outcomes impact on the patient's physical, social and emotional well being as observed by the health care team. And more importantly patients own assessment of the impact of his/ her quality of life. In the use of antihypertensives for instance, the twin goal is to lower blood pressure and prevent complications. However, the antihypertensives impact on the patient's quality of life, which he may perceive more threatening than the beneficial effect of the antihypertensives. And in that case the patient might take responsibility not to comply with the medication. Such quality of life impact of antihypertensives include: symptomatic well-being, psychological well-being, sleep, sexual function, cognitive function, mood and the general well being of the patient (16).

Economic Outcome: Drug therapy has financial implications both on the individual and the national economy. When the wrong drug is used it is a waste

and when excess or under dose of the right drug is used, it is also wasteful. When a patient is given a drug he cannot afford his treatment is not optimized no matter how efficacious the drug is. In this instance the pharmacist in providing pharmaceutical care brings to bear his professional knowledge and responsibility in choosing an alternative drug or making generic substitution based on bio-equivalence information.

Quality Of Pharmaceutical Care:

The measures of quality in pharmaceutical care in line with Donabedian's model (17) are the structure, process and outcome. The outcomes of drug therapy have already been discussed above.

Structural Standards: To provide pharmaceutical care some necessary structures are needed be it in the hospital or community pharmacy. Basic structures include: the layout of the pharmacy; presence of a counseling room; number of pharmacists; training of the pharmacist; availability of patient medication profile, drug use review protocols, pharmacy and therapeutic committee.

Process: it includes detection of adverse drug reactions, counseling/education techniques, and patient waiting time.

In assessing the quality of pharmaceutical care, Donabedian's article on the seven pillars of care also gives an insight into the dimensions: efficacy, effectiveness,

efficiency, optimality, acceptability, legitimacy, and equity (18). An interpretation of these principles in pharmaceutical care shows consistency with quality characteristics of efficacy and acceptability. The effectiveness, cost effectiveness, and efficiency of pharmaceutical care should be firmly established by its practitioners as barriers are eliminated and /or overcome. The pillars of optimality, equity, and legitimacy seem to be overlooked under the current definition of pharmaceutical care. Quality is defined in terms of the values of individuals and society. For now, pharmaceutical care appears to be appropriate standard for defining quality in pharmacy because of the importance of individual maximal benefits within our society (18).

BARRIERS TO PHARMACEUTICAL CARE (19-21):

- A. Pharmacists attitude
 - 1. Lack of comprehension
 - 2. Misconceptions
 - 3. Fear of change
 - 4. Lack of motivation
- B. Lack of advanced Practice Skills
 - 1. Therapeutics
 - 2. Clinical Problem Solving
 - 3. Communication Skills
 - 4. Documentation
 - 5. Drug information
- C. Resource Related Constraints
 - 1. Time
 - 2. Finance
 - 3. Space
 - 4. Personnel

- 5. Management
- D. System Related Constraints
 - 1. Reimbursement
 - 2. Patient Demand
 - 3. Acceptance by nurses & physicians.
 - 4. Lack of Data.
- D. Interprofessional Obstacles
 - 1. Professional Relationships
 - 2. Boards of Pharmacy (Pharmacists Council)
 - 3. Faculties of Pharmacy
- F. Academic Obstacles
 - 1. Lack of role models
 - 2. Curricula

Implementing the Pharmaceutical Care Process (Simplified stepwise approach):

Implementing pharmaceutical care entails application of communication and cognitive skills. Before pharmacists can start the pharmaceutical care process, they need to establish the therapeutic relationship with their patients. Pharmacists need to be active listeners and demonstrate empathy for patients. They then need to interview the patient and collect relevant data to evaluate patient drug therapy and health status. Critical thinking skills improve pharmacists' abilities to identify drug therapy problems and then use the problem approach to resolve the drug therapy problem (22).

Step 1: Establishing some basic structure in the pharmacy that is different from what is used for traditional functions.

Step 2: Pharmacist overcoming the inertia of starting something new acceptance of other health care workers, improving

knowledge and skill.

Step 3: Establishing relationship with the patient by communicating the concept to the patient their expectations and benefits i.e. identify Mr. X as my hypertensive patient who I have outlined some pharmaceutical care plan.

Step 4: Collection of patient centered information: demographic many demographic attributes are factors in correct drug selection and usage and these include age, sex, occupation, level of education.

Clinical Information: involves obtaining information pertinent to the patient's history such as current medication use, immunization history, allergies, psychosocial habits, name and address of other health care providers, current medical problems. These could be obtained per your practice from patient / family interview, existing medical records.

PHYSICAL ASSESSMENT: Information can be obtained as needed but it should be noted that this is an area pharmacists need to improve upon. This information may be collected through record review or by performing an actual physical assessment on the patient using the appropriate assessment skills such as blood glucose testing, blood pressure monitoring, cholesterol screening at your practice site.

DIAGNOSIS DATA: This not only includes appropriate laboratory data to monitor the medical condition or drug therapy but also involves the pharmacist's understanding of the patients'

knowledge of their disease states whether they know the risks associated with the disease and their importance / difference in untreated versus treated outcomes. Pharmacists should also obtain answers from patients to therapy questions such as what do they do if they miss a dose? Do they know appropriate storage? Can they read their prescriptions? Do they understand the 'direction'? This information may be gathered by patient interview and existing medical record.

Step 5: Documentation of Activities: In the pharmaceutical care process the slogan is "if you don't write it you did not do it" and hence we must learn to document all pharmaceutical care activities. The provision of pharmaceutical care for a prolonged period of time requires a documentation system that adequately supports the practice. Such a system must generate three different types of output namely: Pharmaceutical Care Patient Chart, The Patient's Personalized Pharmaceutical Plan and Management Reports. Pharmaceutical Care Patient Chart is the most important of the

three and pharmaceutical care cannot be provided without this chart. Although the chart is created on patient specific basis and for the practitioner's use, it is the source document for other reports. The pharmaceutical care patient chart has replaced the patient medication profile that is now viewed as a status document. Documentation is made each time the patient visits the pharmacy.

Pharmaceutical Care In Selected Disease States: The pharmaceutical care process is expensive in terms of personnel, materials, documentation, time, and to be meaningful it must be focused since pharmaceutical care does not prevent the traditional dispensing role of the pharmacist, focus can be on chronic diseases such as hypertension, diabetes mellitus, asthma, rheumatoid arthritis and cancer.

CASE ILLUSTRATION WITH HYPERTENSION: The role of the pharmacist in providing care to patients involves many components including the following: educating patients and family members about the hypertensive patient's disease

and medication especially the asymptomatic nature, chronicity and need for financial and emotional support; designing patient specific medication regimen; monitoring the individuals medication regimen for appropriateness of medication and doses over time; assessing compliance; intervening with creative approaches to improve adherence with the treatment regimen and screening for the development of adverse drug reactions and drug interactions.

Conclusion: In the USA, the need for pharmaceutical care emerged as a result of sobering drug therapy problems, and the diminishing dispensing role of the pharmacist with the move toward automated filling and use of the technicians. This picture is more pathetic in Nigeria where the profession is yet to gain distinct image and pride among the practitioners. Pharmaceutical care is the potent opportunity for Nigerian pharmacists to "reprofessionalize" their practice. Arise and become an apostle of pharmaceutical care!

REFERENCES

1. Kleimann K. Harvey A.K (1994) Whitney Lecture. We really do care. *Am J Hosp Pharm* 51(16): 2011-5.
2. Hepler CD and Strand LM (1990) Opportunities and responsibilities in pharmaceutical care. *Am J Hosp Pharm* 47(3): 533-43.
3. Mikeal, RL; Brown, TP; Lazarus HL; Vinson, MC (1975) Quality of pharmaceutical care in hospitals. *Am J Hosp Pharm* 32: 567-574.
4. Brodie, DC; Parish, PA; Poston, JW (1980) Societal needs for drugs and drug-related services. *Am J Pharm Ed* 44: 276-278.
5. Hepler CD (1987) The third wave in pharmaceutical education and clinical movement. *Am J Pharm Ed* 51: 369-385.
6. Hepler CD and Strand LM (1990) Opportunities and responsibilities in pharmaceutical care. *Am J Pharm Ed* 53: 75-155.

7. The Scottish Office Department of Health. Acute Services Review Report. May 1998.
8. Anon (1998) Hoechst Marion Roussell Lecture: Building a practice in pharmaceutical care. *Pharmaceutical Journal*; 260:874-6.
9. APhA Pharmaceutical Care Guidelines Advisory Committee, approved by the APhA Board of Trustees, August 1995.
10. Lee MP and Ray MD (1993) Planning for pharmaceutical care. *Am J Hosp Pharm* 50 (6): 1153-8.
11. Thomas Moore (1998) Prescription for disaster, Simon and Schuster
12. Johnson, JA and Bootman, JL (1997) Drug related morbidity and mortality and the economic impact of pharmaceutical care. *Am. J. Systems Pharmacists* 54: 554-558.
13. Plumridge RJ and Worjnar-Horton RE (1998) A review of the pharmacoeconomics of pharmaceutical care. *Pharmacoeconomics* 14 (2): 175-89.
14. Cipolle RJ, Strand LM, and Morley, PC. *Pharmaceutical care practice* McGraw Hill, 1998: 10-13, 37-78, 182-183.
15. Humanistic outcomes in hypertension and COPD arms of multicenter outcomes study. *J Am Pharm Assoc (Wash)* 1998 Se-Oct; 38(5): 586-97.
16. Bulpitt, JC and Fletcher, AE (1994) Quality of life instruments in hypertension. *Pharmacoeconomics*; 6(6): 523-535.
17. Donabedian, A.: Evaluating the quality of medical care. *Health services Research, Mainland, D. (Ed.)*. Millbank Memorial Fund, New York, 1967, pp 166-206.
18. Farris KB and Kirking DM (1993) Assessing the quality of pharmaceutical care. 1. One perspective of quality. *Ann Pharmacother* 27 (1): 68-73.
19. John P. Rovers et al. *A Practical Guide to Pharmaceutical Care*. American Pharmaceutical Association, 1998
20. Bernard Sorofman ed. *Implementing Pharmaceutical Care Proceedings of a Consensus Conference on February 19, 1995*. Des Moines, Iowa Pharmaceutical Care Consensus Conference. The Iowa Centre for Pharmaceutical Care, 1995.
21. Bruce R Canaday ed. *OBRA '90: A Practical Guide to Effecting Pharmaceutical Care*. American Pharmaceutical Association, 1994.
22. McDonough RP (1996) Interventions to improve patient pharmaceutical care outcomes. *J Am Pharm Assoc NS* 36(7): 453-65